



## The *Other* Water Worry: Is Your Water Provider Prepared for the Big One?

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### ISSUE

To what extent are water providers in San Mateo County prepared to supply water to customers in the event of a major seismic catastrophe?

### SUMMARY

Along with the danger of drought, San Mateo County faces the likelihood of a powerful earthquake that could disrupt our supply of drinking water. Most of the water consumed in San Mateo County is sourced from the Hetch Hetchy Water System operated by the San Francisco Public Utilities Commission. In the event of a major earthquake, County water providers expect to regain access to this water supply within 72 hours after a catastrophic seismic event. However, some of those same water providers lack sufficient water reserve capacity to keep their customers' taps flowing for a three-day period without access to Hetch Hetchy water.

The Grand Jury found that the challenges of the County's aging water infrastructure are exacerbated by the diffuse patchwork of 16 water providers, each with its own pipes, tanks, management, and business model. Each of the 12 water providers the Grand Jury investigated had adopted a formal emergency response plan (ERP) as required by the Environmental Protection Agency (EPA). Nearly all the ERPs reviewed include provisions for exercises and after-action reports to identify problems. Some of those water providers indicated they had attended emergency response exercises run by other organizations, but none provided documentation that they had performed the emergency exercises specified by their ERPs. None of those water providers produced any after-action reports consistent with their ERPs.

Electric power is critical to the basic functioning of water providers' service, so back-up generators with sufficient fuel are needed in the event of an electrical power loss. Only about half of the water providers interviewed by the Grand Jury maintain a three-day supply of fuel for their emergency needs.

The County Department of Emergency Management is responsible for coordinating countywide emergency preparedness. The Grand Jury found that this department has had limited contact with

water providers and could not produce a current list of emergency contacts. Based on its investigation, the Grand Jury recommends that:

- County water providers perform emergency preparedness exercises consistent with their emergency response plans;
- County water providers perform an analysis and document an after-action report consistent with their emergency response plans;
- County water providers develop plans to increase emergency water storage sufficient to provide emergency water for a period of at least three days;
- County water providers develop plans to increase emergency fuel storage sufficient to provide emergency fuel for a period of at least three days; and
- County Department of Emergency Management develop a plan to bring its policy in line with EPA recommendations to coordinate disaster response with County water providers.

## **GLOSSARY**

**After-Action Report** – An After-Action Report is an evaluation of an emergency response exercise designed to assess performance of exercise objectives and capabilities by documenting strengths, weaknesses, and corrective actions.

**BAWSCA** – The Bay Area Water Supply and Conservation Agency is a consortium formed by the State of California and major water providers in the San Francisco Bay area for the purpose of negotiating water purchases to buy water from the Hetch Hetchy Regional Water System.

**SFPUC** – The San Francisco Public Utilities Commission owns and controls the water that flows from the Hetch Hetchy Regional Water System to water providers.

## **BACKGROUND**

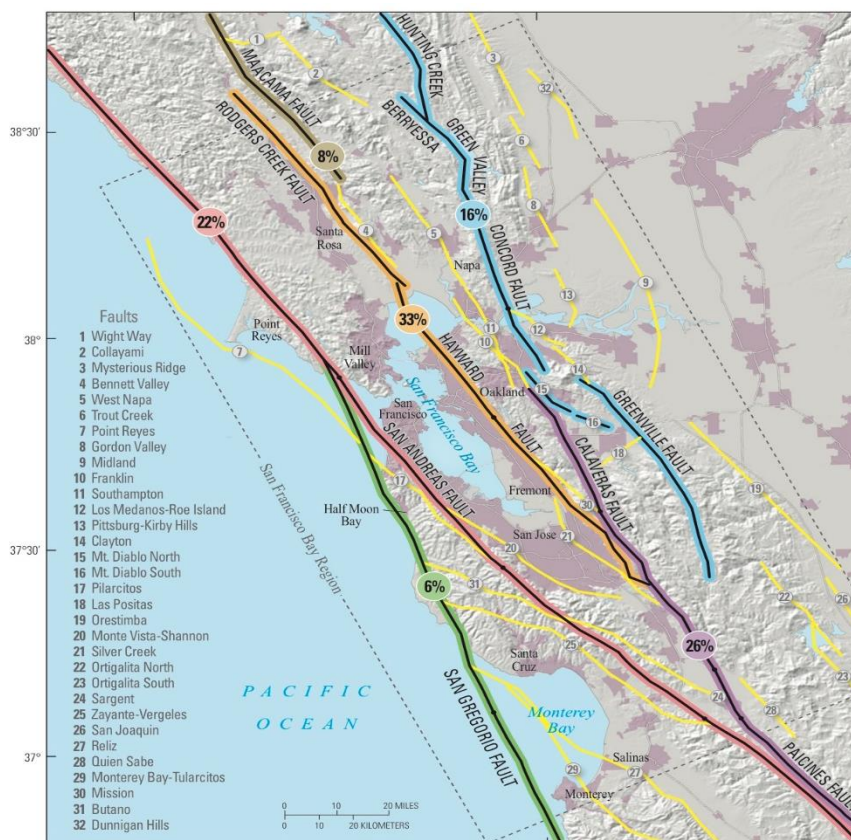
### **Water Matters**

Access to clean drinking water is widely recognized as an essential public service. The current drought is now the most visible challenge to our water supply service, but there is another dangerous, and likely inevitable threat to the local water delivery infrastructure in San Mateo County.

## Earthquakes (Will) Happen

The U.S. Geological Survey estimates that the San Francisco Bay area faces a 72% probability of a magnitude 6.7 earthquake sometime in the next 30 years.<sup>1</sup> The San Andreas Fault, which triggered the devastating 1906 San Francisco earthquake (magnitude 7.8), runs straight through San Mateo County. The Hayward Fault, which geologists say is overdue for a major earthquake that may destroy important infrastructure, runs through the East Bay.<sup>2</sup> In Figure 1, the percentage shown in the colored circles on each named fault represents the probability that a magnitude 6.7 or greater earthquake will occur somewhere on that fault by the year 2043. The dark lines outlined in various colors represent major plate boundary faults; the thinner, yellow lines mark smaller and lesser-known faults.

**Figure 1: Map of Earthquake Outlook for the San Francisco Bay region 2014–2043<sup>3</sup>**



<sup>1</sup> USGS, “What is the probability that an earthquake will occur in the Los Angeles Area? In the San Francisco Bay area?”, accessed June 4, 2022, <https://www.usgs.gov/faqs/what-probability-earthquake-will-occur-los-angeles-area-san-francisco-bay-area>

<sup>2</sup> USGS, "Earthquake outlook for the San Francisco Bay region 2014–2043 - Fact Sheet", accessed June 4, 2022, <https://pubs.er.usgs.gov/publication/fs20163020>

<sup>3</sup> <https://www.usgs.gov/faqs/what-probability-earthquake-will-occur-los-angeles-area-san-francisco-bay-area>, June 13, 2022

A large earthquake along any of the major faults in the area could cause land displacement and related damage. For example, the images in Figure 2 show the damage to large water mains caused by the 1906 San Francisco earthquake on the San Andreas Fault.<sup>4</sup> Most of the damage done to San Francisco as a result of the earthquake was attributable to lack of water to fight the fire.

**Figure 2: Water Mains Damaged by the 1906 San Francisco Earthquake**



### Shaking Up the Water System

*“The water system is the utility most vulnerable to earthquake damage, and that damage could be the largest cause of economic disruption following an earthquake.”*

- Los Angeles Mayor’s Office, *Resilience By Design* (2015)<sup>5</sup>

Water systems, relying as they do on underground pipes, are susceptible to damage and failure in the event of earthquakes. This problem is compounded by the fact that County water providers are operating with components that are up to a century old and nearing the end of their useful lives.<sup>6</sup>

Potential pipe failures are not the only points of vulnerability to earthquake damage. The County’s many water systems – with networks of dams, aqueducts, pump stations, valves, storage tanks, above-ground water mains, and tunnels – are susceptible to damage from earth movement or loss of pumping power. Damage to the electrical grid, phone systems, and transportation infrastructure are also likely obstacles to rapid earthquake response.

In August 2014, a magnitude 6.0 earthquake occurred in Napa County. Aftershocks causing earth movement and further damage continued for months. As many as 163 water pipeline breaks were

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<sup>4</sup> Water Mains Damaged in 1906 San Andreas Fault Earthquake

[www.geengineeringsystems.com/ewExternalFiles/1906-2006.pdf](http://www.geengineeringsystems.com/ewExternalFiles/1906-2006.pdf), accessed June 2, 2022 and J.B. Macelwane archives, St. Louis University

<sup>5</sup> Los Angeles Mayor’s Office, “Resilience by Design” 2015, accessed June 4, 2022, <https://www.usrc.org/wp-content/uploads/LA-Resilient-by-Design.pdf>

<sup>6</sup> Grand Jury interview

reported and service to some customers was disrupted for weeks.<sup>7</sup> In 2011, more than two million Japanese households were without water service following the magnitude 9.1 Tohoku earthquake. Over a million households remained without water service for two weeks.<sup>8</sup>

The California Governor's Office of Emergency Services has published a warning to Californians that they should be self-sufficient for at least three days after a major earthquake.<sup>9</sup> The Centers for Disease Control recommends that households keep on hand at least a gallon of water per day for each person in the household, with sufficient water for three days for drinking and sanitation.<sup>10</sup> The East Bay Municipal Utility District recommends two gallons of water per day for at least seven days for each person in the household.<sup>11</sup>

### **So, Who Will Keep Your Taps Flowing?**

The County's drinking water is almost entirely sourced from the Hetch Hetchy Regional Water System, including the Hetch Hetchy reservoir impounded behind the O'Shaughnessy Dam in Yosemite National Park, over 130 miles away and administered by the San Francisco Public Utilities Commission (SFPUC). The Bay Area Water Supply and Conservation Agency (BAWSCA) was formed in 2003 to represent 26 cities, water districts, and private utilities that purchase water from the SFPUC.<sup>12</sup>

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<sup>7</sup> Pacific Earthquake Engineering Research Center, University of California Berkeley, "The M<sub>w</sub> 6.0 South Napa Earthquake of August 24, 2014", June 2016, [https://peer.berkeley.edu/sites/default/files/cssc1603-peer201604\\_final\\_7.20.16.pdf](https://peer.berkeley.edu/sites/default/files/cssc1603-peer201604_final_7.20.16.pdf)

<sup>8</sup> T. Okamoto, Y. Kuwata, "Influence to Water Outage due to Damage to Regional Water Supply during the 2011 off the Pacific Coast of Tohoku Earthquake", 2012, [https://www.iitk.ac.in/nicee/wcee/article/WCEE2012\\_1681.pdf](https://www.iitk.ac.in/nicee/wcee/article/WCEE2012_1681.pdf)

<sup>9</sup> "Community members are expected to be self-sufficient up to 3 days after a major earthquake without government response agencies, utilities, private-sector services, and infrastructure components. Education programs are currently in place to facilitate development of individual, family, neighborhood, and business earthquake preparedness."

California Governor's Office of Emergency Services, "Earth Quake, Can You Go It Alone For Three Days", accessed June 10, 2022, <https://www.ucop.edu/risk-services/files/bsas/safetymeetings/oeseearthquakebrochure.pdf>

<sup>10</sup> CDC, "Creating and Storing an Emergency Water Supply", accessed June 4, 2022,

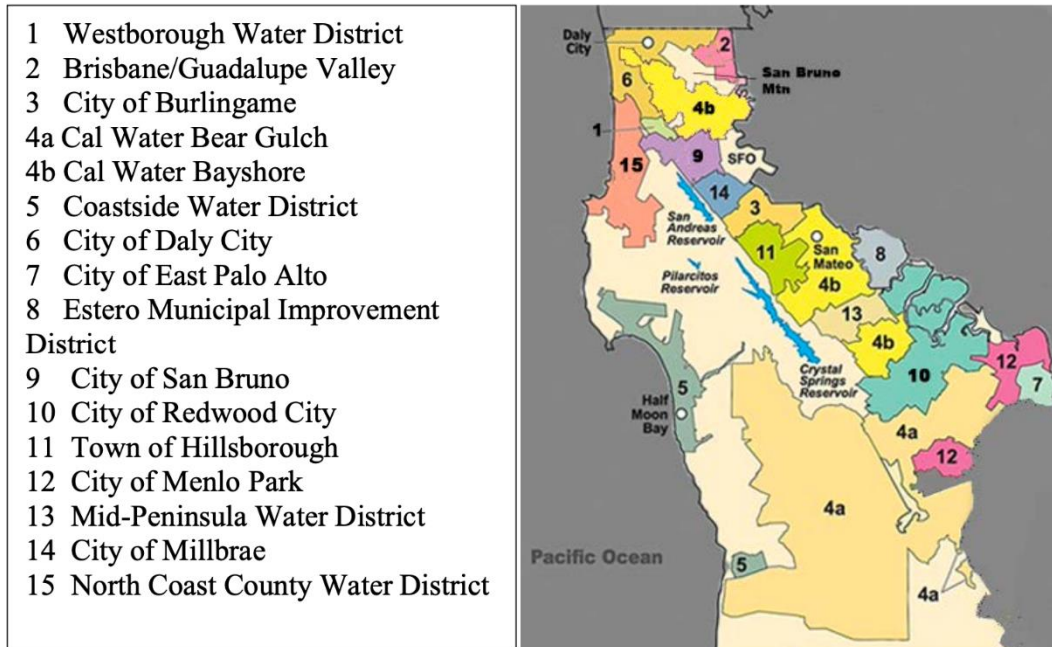
<https://www.cdc.gov/healthywater/emergency/creating-storing-emergency-water-supply.html/>

<sup>11</sup> East Bay Municipal District (EBMUD), accessed June 14, 2022, <https://www.ebmud.com/about-us/construction-and-maintenance/fire-safety-and-suppression/emergency-preparedness>

<sup>12</sup> Two small water providers do not get their water from SFPUC -- they are County Service Area 7, with 70 customers, in La Honda, and County Service Area 11, with 90 customers in Pescadero.

Sixteen water providers in the County deliver water purchased from SFPUC to residential and business customers in their territories, as shown in Figure 3.<sup>13</sup>

**Figure 3: Water Providers in San Mateo County**



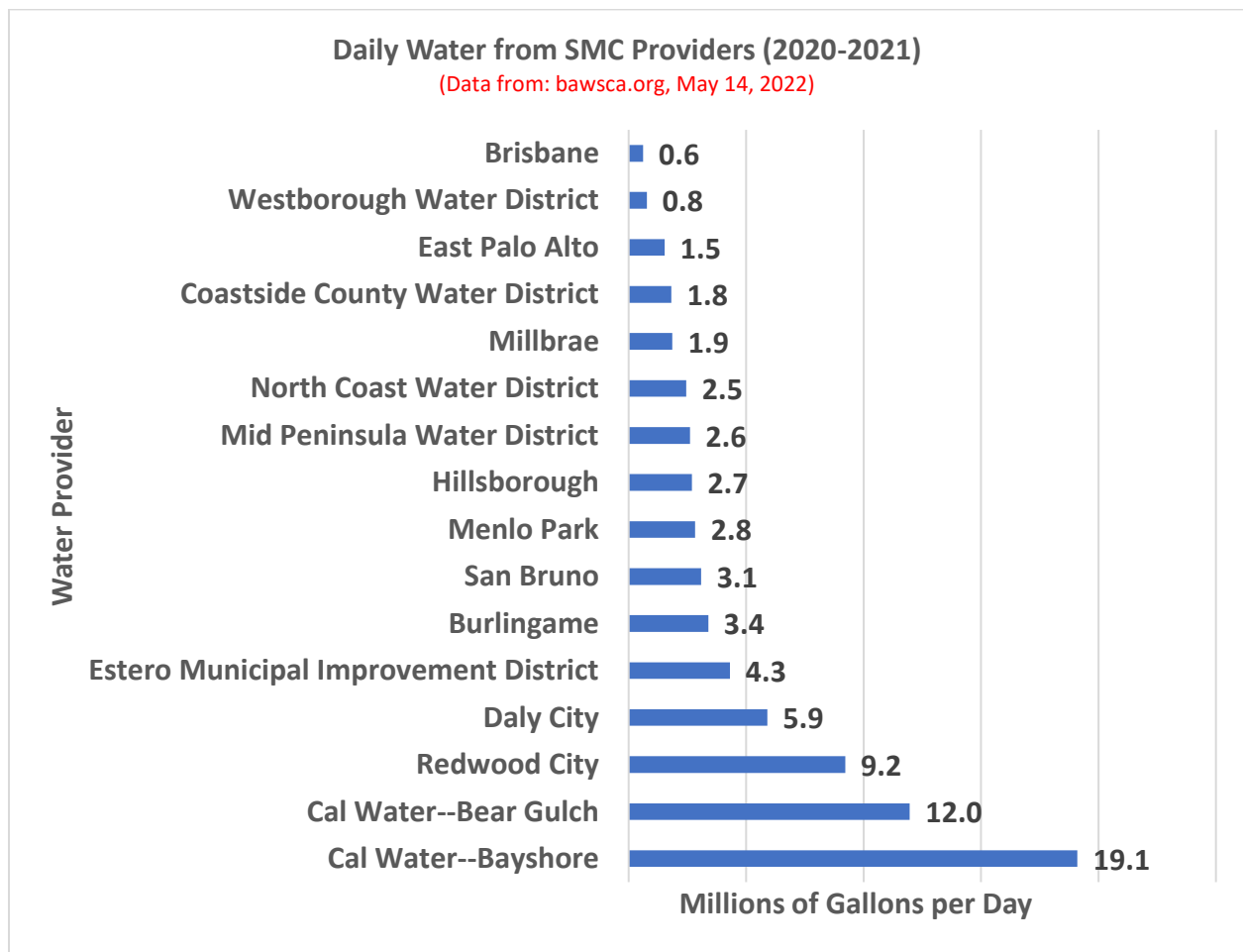
Those water providers vary significantly in size of area served, number of customers, water capacity, and form of ownership and control. Some water providers are municipal water districts managed by individual cities; some are special districts run by an elected board; and still others are investor-owned utilities regulated by the California Public Utilities Commission. The areas served by water providers generally do not conform to city boundaries. A single city may be served by several water providers, and one water provider may serve residents in different cities.

Although water providers are independently managed, most of their systems include physical linkages – known as “interties” – that allow them to share water supplies with another provider.

<sup>13</sup> Based on User Survey 2014-2015, bawasca.org, accessed June 13, 2022

Figure 4 shows the daily water usage by each water provider in San Mateo County.

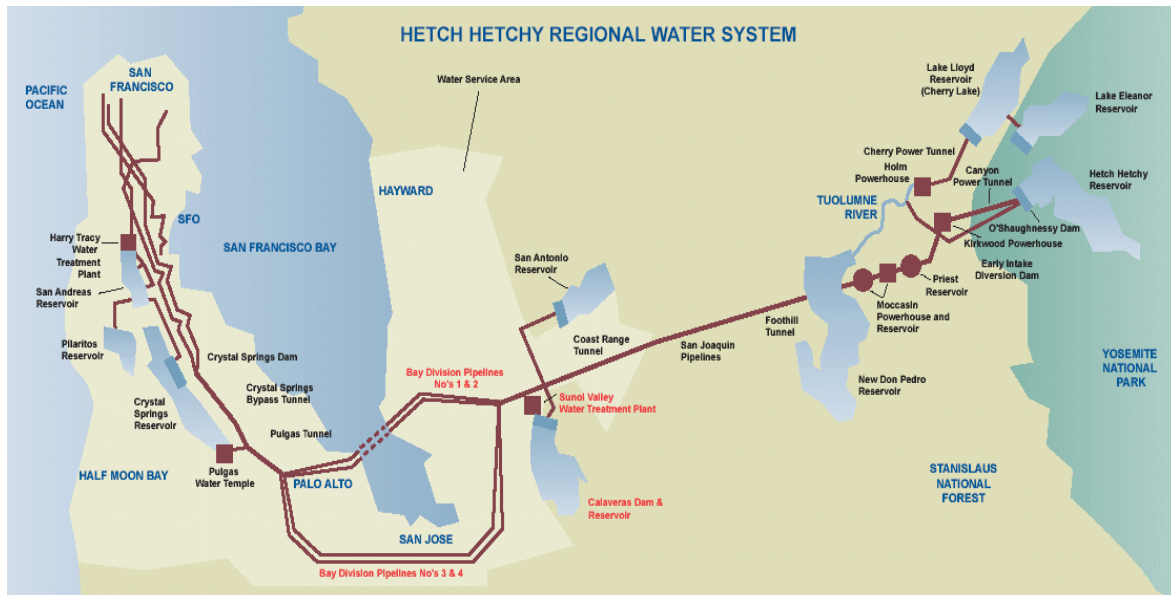
**Figure 4: Daily Water Usage (in Millions of Gallons) from County Water Providers**



## Securing the Source

The SFPUC has almost completed a ten-year water system improvement project on the Hetch Hetchy Water System. The work included earthquake-hardening construction on dams, aqueducts, underground tunnels, and 280 miles of large diameter pipes that span three major faults (Calaveras, Hayward, and San Andreas) and many secondary faults.

**Figure 5: Hetch Hetchy Regional Water System**



Prior to a recent Water System Improvement Program, BAWSCA estimated that the water delivery system was at significant seismic risk for outages of 20 - 30 days or more following an earthquake.<sup>14</sup> The design criteria for the Hetch Hetchy System seismic upgrade included the goal that most of the water network managed by SFPUC will be restored to 70% of water providers within 24 hours after a major earthquake.<sup>15</sup>

Hardening and modernizing vulnerable water infrastructure against a major earthquake is costly, disruptive, and impractical for individual water providers. Therefore, much of the local distribution system, between the SFPUC “turnout” to the water provider and the water providers’ customers’ taps, is likely to be older and more vulnerable to earthquake damage.<sup>16</sup>

<sup>14</sup> BAWSCA, “Water System Improvement Program”, accessed June 5, 2022, <https://bawsc.org/water/supply/improvement>

<sup>15</sup> [https://ssc.ca.gov/wp-content/uploads/sites/9/2020/08/sfpuc\\_final\\_version\\_12\\_4-19-06.pdf](https://ssc.ca.gov/wp-content/uploads/sites/9/2020/08/sfpuc_final_version_12_4-19-06.pdf)

<sup>16</sup> Grand Jury interview



## Federal Oversight

Several federal agencies share responsibility for regulation and oversight of water providers in San Mateo County.<sup>17</sup>

Of primary importance to this investigation is oversight administered through the Environmental Protection Agency (EPA). It implements the America's Water Infrastructure Act of 2018 (AWIA). AWIA requires water providers serving more than 3,300 people to develop a Risk and Resilience Assessment (Resiliency Assessment) that addresses risks from both natural hazards and malevolent actors. It includes an assessment of the resilience of water system infrastructure and operations, including cybersecurity. AWIA also requires providers to develop an Emergency Response Plan (ERP) that includes plans, procedures, and strategies to prepare for and respond to threats identified in their Resiliency Assessment. Water providers were required to self-certify and submit their ERPs to the EPA by December 31, 2021.<sup>18</sup> The AWIA requirements for a compliant ERP are shown in Appendix A.

The EPA offers online tools and other resources to help water providers prepare and comply with their AWIA requirements.<sup>19</sup> The EPA also encourages utilities to conduct tabletop emergency preparedness exercises as part of their emergency preparedness.<sup>20</sup>

## State Oversight

The State of California has numerous departments, councils, agencies, and commissions involved with water service in one way or another. With respect to emergency preparedness in particular, the California Water Code requires each provider serving more than 3,000 customers to prepare, and submit to Department of Water Resources, an Urban Water Management Plan outlining plans for a diminished water supply. This plan should include planning for water shortages in the event of a natural disaster, and is required to be updated every five years.<sup>21</sup>

Some water providers are investor-owned companies. These providers are regulated as public utilities by the California Public Utilities Commission, which oversees their rates and operations. The California Water Service Company, an investor-owned company, is the single largest provider in San Mateo County (see Appendix B).

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<sup>17</sup> E.g., Department of Homeland Security, Department of Defense, Department of the Interior, Department of Agriculture, Department of Energy, and Department of Health and Human Services. Cody, Schneider, Tiemann, *Selected Federal Water Activities: Agencies, Authorities, and Congressional Committees*, Congressional Research Service, 2017

<sup>18</sup> EPA, "America's Water Infrastructure Act: Risk Assessments and Emergency Response Plans", accessed June 9, 2022, <https://www.epa.gov/waterresilience/awia-section-2013>

<sup>19</sup> EPA, "[Vulnerability Self-Assessment Tool \(VSAT\): Protect Your Community From Risk](#)", accessed June 14, 2022

<sup>20</sup> EPA, "Tabletop Exercise Tool for Water Utilities", accessed June 9, <https://www.epa.gov/waterresiliencetraining/tabletop-exercise-tool-water-utilities-emergency-preparedness-response-and-climate-resiliency>

<sup>21</sup> 2022, California Department of Water Resources, "Urban Water Management Plans", accessed June 9, 2022, <https://water.ca.gov/Programs/Water-Use-And-Efficiency/Urban-Water-Use-Efficiency/Urban-Water-Management-Plans#:~:text=The%20requirements%20for%20UWMPs%20are.required%20to%20submit%20an%20UWMP>

## County Oversight

No County agency is specifically assigned responsibility for regulation of water providers.

## COVID-19 Considerations

Beginning in 2020, the COVID-19 pandemic dramatically impacted every aspect of life, including how public agencies delivered their services. Supply chain disruptions, staffing dislocation, and pandemic restrictions had significant impact on these agencies.

## The Role of Readiness: Plan, Practice, Evaluate

*“The water system’s training program should ... include routine training drills, tabletop exercises and possibly functional exercises, depending on the utilities['] resources. ...The water system should include all the key players in the training exercises, so everyone is familiar with emergency policies and procedures.”<sup>22</sup>*

*“Train as you fight; fight as you train – keep the training and exercises close to real as possible because the skills and muscle memory developed is what will be called upon in the face of a real incident.”<sup>23</sup>*

-California State Water Board

Water service interruptions in the event of an earthquake may be inevitable, but the extent and duration of those interruptions will largely depend on preparedness of water providers and emergency managers. How do water providers anticipate and plan for the potential chaos, obstacles, hazards, and contingencies that an actual catastrophe may bring?

The EPA and the Federal Emergency Management Agency (FEMA), a major agency of the Department of Homeland Security, both play significant roles in helping water providers prepare for water emergencies.

The EPA provides tools for agencies to help them prepare their ERPs, including:

- Tools on how to train and perform exercises for their personnel and response partners on the contents of their ERPs, including the roles and responsibilities of specific parties.<sup>24</sup>

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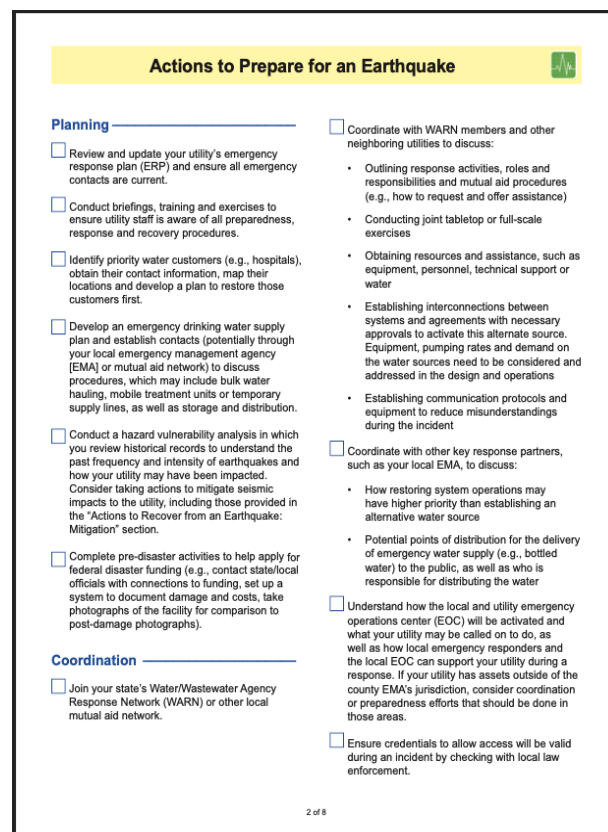
<sup>22</sup> 2015, *State Water Resources Control Board Division of Drinking Water Emergency Response Plan Guidance for Public Drinking Water Systems Serving a population of 3,300 or more (approximately 1,000 SC or more)*, accessed June 9, 2022, [https://www.waterboards.ca.gov/drinking\\_water/certlic/drinkingwater/documents/security/ddw\\_emergency\\_guidelines\\_0215.pdf](https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/security/ddw_emergency_guidelines_0215.pdf)

<sup>23</sup> California Water Boards, “Water Resiliency”, accessed June 9, 2022, [https://www.waterboards.ca.gov/drinking\\_water/certlic/drinkingwater/water\\_resiliency/](https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/water_resiliency/)

<sup>24</sup> EPA, “Developing Emergency Response Plans with the Drinking Water State Revolving Fund”, accessed June 9, 2020, [https://www.epa.gov/sites/default/files/2021-06/documents/emergency\\_response\\_plan-final.pdf](https://www.epa.gov/sites/default/files/2021-06/documents/emergency_response_plan-final.pdf)

- Resources on how to plan for an emergency and how to practice and evaluate those plans before they're needed. Those resources include videos, detailed checklists, interactive maps, and mitigation and funding recommendations.<sup>25</sup>
- An online guide, titled "Tabletop Exercise Tool for Drinking Water and Wastewater Utilities," that offers a comprehensive program to assist managers in developing and customizing exercise scenarios with unique local elements and challenges.<sup>26</sup>
- An interactive, user-friendly Earthquake Resiliency Guide that helps water and wastewater utilities be more resilient to earthquakes.<sup>27</sup>
- A Water Sector Utility Incident Action Checklist (excerpt reproduced in Figure 6).<sup>28</sup>

**Figure 6: EPA - Actions to Prepare for an Earthquake<sup>29</sup>**



<sup>25</sup> EPA, "The Earthquake Resilience Guide for Water and Wastewater Utilities", accessed June 9, 2022, <https://www.epa.gov/sites/default/files/2018-02/documents/180112-earthquakeresiliencguide.pdf>

<sup>26</sup> EPA, "Tabletop Exercise Tool for Water Utilities: Emergency Preparedness, Response and Climate Resiliency", accessed June 14, 2022, <https://www.epa.gov/waterresiliencetraining/tabletop-exercise-tool-water-utilities-emergency-preparedness-response-and>

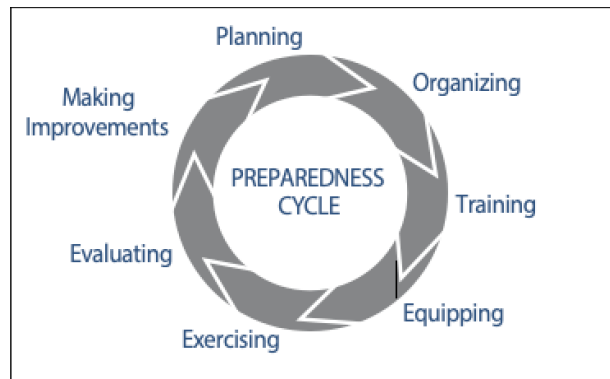
<sup>27</sup> EPA, "Earthquake Resiliency Guide" (updated February 2022), <https://www.epa.gov/waterutilityresponse/earthquake-resilience-guide>, accessed June 15, 2022. This resource can be found at Appendix C.

<sup>28</sup> EPA, "Water Sector Utility Incident Action Checklist," [https://www.epa.gov/system/files/documents/2021-10/incident-action-checklist-earthquakes\\_508c-final.pdf](https://www.epa.gov/system/files/documents/2021-10/incident-action-checklist-earthquakes_508c-final.pdf), accessed June 19, 2022

<sup>29</sup> See Appendix D

According to the EPA, "... [t]he water sector should be engaged in a continuous cycle of planning, organizing, training, equipping, exercising, evaluating, and taking corrective actions to achieve and maintain readiness to respond to, and reduce impacts from, emergencies. Preparedness also leads to increased resiliency, which is a key component of a utility's ability to provide critical services under adverse conditions."<sup>30</sup> That preparedness cycle is illustrated in Figure 7.

**Figure 7: EPA Preparedness Cycle**



FEMA has long recognized that well-designed practice sessions or tabletop exercises are a cost-effective, low risk mechanism for training staff, promoting communication across organizations and validating plans, procedures, equipment, systems, tools, facilities, and training for emergency management.<sup>31</sup> There have been extensive government efforts to support that goal. For example, the Department of Homeland Security created The Homeland Security Exercise and Evaluation Program (HSEEP) to train stakeholders like water and sanitation systems in developing and implementing essential readiness components.<sup>32</sup>

An "After-Action Report" is a formal review of an emergency preparedness exercise, such as a tabletop exercise, that is designed to identify what worked and what needs to be improved. It converts lessons learned from the exercise into concrete, measurable steps to improve response capabilities. It specifically details the actions to take to address recommendations presented, who will be responsible for taking the action, and the timeline for completion.<sup>33</sup>

Experience gained from both the 1991 Oakland Hills fire and the 1989 Loma Prieta earthquake highlighted the importance of mutual aid among water providers. The California

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<sup>30</sup> EPA, "How to Develop a Multi-Year Training and Exercise (T&E) Plan", accessed June 14, 2022, [https://www.epa.gov/sites/default/files/2015-05/documents/how\\_to\\_develop\\_a\\_multi-year\\_training\\_and\\_exercise\\_plan\\_a\\_tool\\_for\\_the\\_water\\_sector.pdf](https://www.epa.gov/sites/default/files/2015-05/documents/how_to_develop_a_multi-year_training_and_exercise_plan_a_tool_for_the_water_sector.pdf)

See also NIH, "Use of After-Action Reports (AARs) to Promote Organizational and Systems Learning in Emergency Preparedness", accessed June 14, 2022, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3447598/>

<sup>31</sup> The White House archives, President George Bush, "Katrina Lessons Learned", accessed June 9, 2022, <https://georgewbush-whitehouse.archives.gov/reports/katrina-lessons-learned/appendix-a.html>

<sup>32</sup> FEMA, "Homeland Security Exercise and Evaluation Program (HSEEP)", accessed June 9, 2022, <https://www.fema.gov/emergency-managers/national-preparedness/exercises/hseep>

<sup>33</sup> San Francisco Department of Emergency Management, "Phase 4: After Action Report and Improvement Planning," accessed June 14, 2022, <https://sfdem.org/phase-4-after-action-report-and-improvement-planning-0>

Water/Wastewater Agency Response Network (CalWARN) was formed and membership eventually expanded to include over 190 utilities across the state. “The mission of CalWARN is to support and promote statewide emergency preparedness, disaster response, and mutual assistance processes for public and private water and wastewater utilities.”<sup>34</sup> Its network enables agencies to locate and share vital resources, including both equipment and personnel during emergencies. The EPA recommends that water providers participate in mutual aid activities.<sup>35</sup>

The County Executive’s Office describes the responsibility of the Department of Emergency Management (County DEM) as “alerting and notifying appropriate agencies within the county’s 20 cities when disaster strikes; coordinating all agencies that respond; ensuring resources are available and mobilized in times of disaster; developing plans and procedures in response to and recovery from disasters; and developing and providing preparedness materials for our residents.”<sup>36</sup> Formerly operated by the County Sherriff’s Office as the Office of Emergency Services, County DEM came under the authority of the County Executive’s Office in 2021 and later became a stand-alone County department.

The Grand Jury investigated the degree to which water providers in the County are preparing for potential difficulties in restoring water to customers in the event of an abrupt service interruption.

## **DISCUSSION**

While the SFPUC is nearing completion of its upgrade to the seismic resilience of the Hetch Hetchy Regional Water System, County water providers have managed their infrastructure upgrade programs in diverse ways. Some water providers reported that they can only afford enough capital outlay to replace about 2% of aging components per year without severely increasing water rates.<sup>37</sup> History suggests they could face crippling pipeline breaks, equipment damage, and fuel shortages during the aftermath of a major seismic event.

Mitigating an earthquake’s impact requires the ability to:

- Quickly identify and repair damage, much of it underground and invisible;
- Coordinate and communicate with scattered staff in a chaotic post-quake environment;
- Locate and transport emergency equipment and supplies;

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<sup>34</sup> CalWARN Mission Statement, accessed June 14, 2022. <https://www.calwarn.org>

<sup>35</sup> EPA, “Water Sector Utility Incident Action Checklist,” accessed June 19, 2022, [https://www.epa.gov/system/files/documents/2021-10/incident-action-checklist-earthquakes\\_508c-final.pdf](https://www.epa.gov/system/files/documents/2021-10/incident-action-checklist-earthquakes_508c-final.pdf)

<sup>36</sup> County of San Mateo, Department of Emergency Management, accessed June 9, 2022, <https://www.smcgov.org/ceo/departament-emergency-management>

<sup>37</sup> Grand Jury interviews

- Quickly react and adapt to both likely and unpredictable challenges in a stressful environment; and
- Coordinate response with emergency agencies and other water providers.<sup>38</sup>

Federal and State regulations and guidelines require water providers to document the adequacy of emergency preparation measures, including an ERP. The Grand Jury sought to verify that the individual water providers were in compliance with provisions of their ERPs.<sup>39</sup> We also sought to assess emergency preparedness, and potential improvements to the emergency response planning of County water providers.

The Grand Jury selected 12 of the 16 major County water providers, representing a cross-section of populations served and types of providers (municipal water districts, special districts, and public utilities). We reviewed documents and conducted interviews with representatives from each of these water providers listed in Figure 8.

**Figure 8: Water Providers Investigated**

Water Provider	Provider Type <sup>40</sup>	Population Served (2021) <sup>41</sup>
Brisbane	Municipal Water District	4,657
Hillsborough	Municipal Water District	10,869
Westborough Water District	Special District	12,703
Coastside County Water District	Special District	18,738
East Palo Alto	Municipal Water District	26,181
Mid-Peninsula Water District	Special District	26,924
Estero Municipal Improvement District	Special District	37,687
North Coast County Water District	Special District	38,546
Cal Water Bear Gulch	Public Utility	60,827
Redwood City	Municipal Water District	90,518
Daly City	Municipal Water District	106,638
Cal Water Bayshore	Public Utility	200,111

As required by the America’s Water Infrastructure Act (AWIA), each of these providers has prepared, self-certified, and submitted to the EPA a Resiliency Assessment and an ERP.<sup>42</sup> Brisbane was not required by AWIA to submit an ERP specifically, but has an equivalent document titled an Emergency Operations Plan.

<sup>38</sup> EPA, March 2018, “Connecting Water Utilities and Emergency Management Agencies”, accessed June 10, 2022, [https://www.epa.gov/sites/default/files/2018-05/documents/water\\_emaconnection.pdf](https://www.epa.gov/sites/default/files/2018-05/documents/water_emaconnection.pdf)

<sup>39</sup> Grand Jury interviews/correspondences

<sup>40</sup> Grand Jury interviews

<sup>41</sup> BAWSCA.org member agency profiles

<sup>42</sup> EPA, “America's Water Infrastructure Act: Risk Assessments and Emergency Response Plans”, accessed June 10, 2022, <https://www.epa.gov/waterresilience/awia-section-2013>

## **Emergency Response Plans: Promise, Performance, Documentation**

The ERPs of all water providers the Grand Jury investigated included provisions for emergency readiness exercises. Only seven specified that these exercises would be performed at least annually. Others contained no commitment about the frequency of exercises. Some water providers we investigated indicated that the COVID-19 pandemic hampered their capacity to perform the exercises required by their ERPs.

The SFPUC invites most County water providers to attend its annual emergency preparedness exercises. Several water providers told us they attend these exercises. Two water providers (Westborough Water District and East Palo Alto) indicated that they did not participate and they did not receive invitations.<sup>43</sup> In addition, several water providers informed us that they had participated in general emergency preparedness exercises organized by local public safety and similar agencies in the past.

The Grand Jury was unable to determine whether the SFPUC exercises, or local emergency response planning exercises, satisfied the specific requirements described in the water districts' respective ERPs, as submitted to EPA.

None of the water districts investigated was able to present to the Grand Jury any documentation showing that they had conducted the water district readiness exercises described in their respective ERPs. In addition, no water provider was able to present to the Grand Jury any After-Action Report related to its ERP requirements.

## **Backup Water and Fuel**

The SFPUC publication on seismic design criteria states that their performance goal for the Hetch Hetchy's Water System Improvement Program is to restore winter demand volume to 70% of their customer turnouts within 24 hours of a major earthquake.<sup>44</sup> The Grand Jury noted that County water providers are reasonably confident the improved SFPUC system will be functioning within three days.<sup>45</sup>

Grand Jury interviews and BAWSCA data indicate that only seven of the 12 water providers investigated by the Grand Jury had back-up water storage sufficient for three days of normal usage. Several water providers informed the Grand Jury that they should also maintain a three-day back-up storage of fuel to keep generators operating to run the water delivery system during an emergency.

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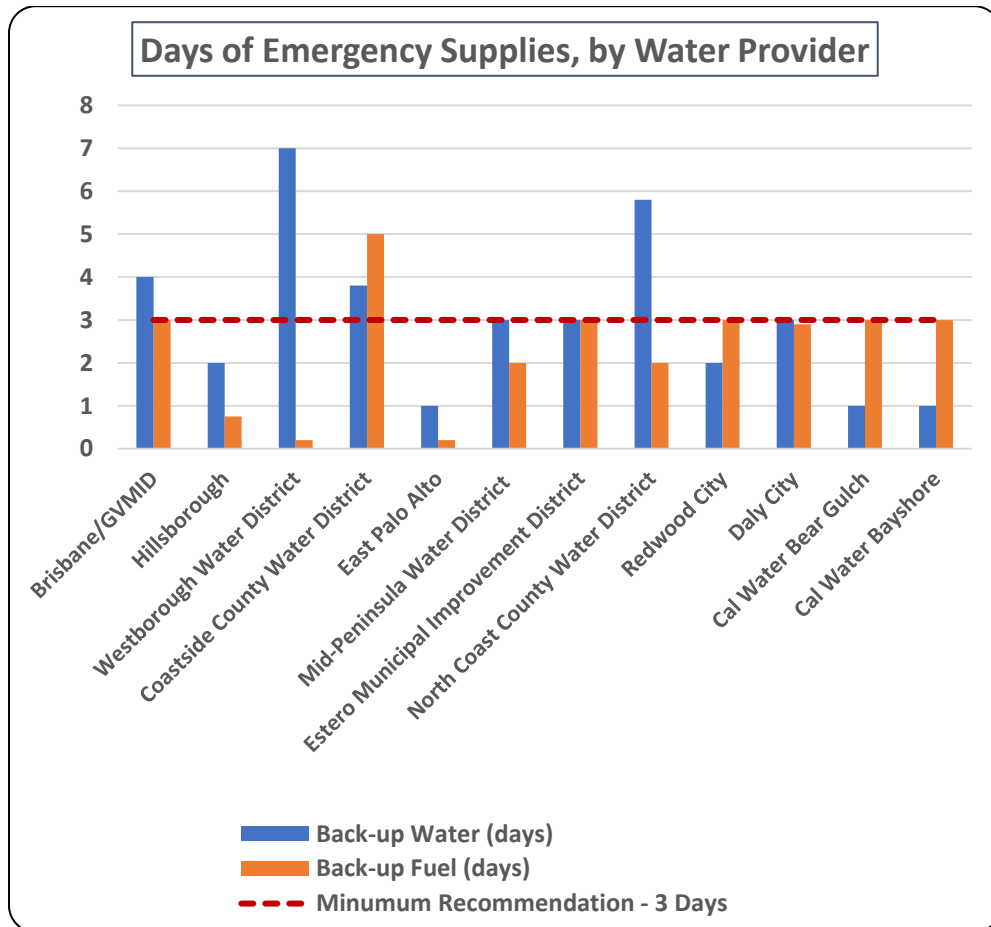
<sup>43</sup> Grand Jury interview

<sup>44</sup> [https://ssc.ca.gov/wp-content/uploads/sites/9/2020/08/sfpuc\\_final\\_version\\_12\\_4-19-06.pdf](https://ssc.ca.gov/wp-content/uploads/sites/9/2020/08/sfpuc_final_version_12_4-19-06.pdf)

<sup>45</sup> Grand Jury interview

Only seven of the water providers we investigated had a three-day back-up fuel supply. Only four had a three-day back-up supply of both water and fuel, as shown in Figure 9.

**Figure 9: Days of Emergency Supplies, by Water Provider<sup>46</sup>**



### County Responsibilities

In a catastrophic event, County DEM is responsible for alerting and coordinating agencies’ responses, ensuring availability of resources, and developing plans for response and recovery.

The EPA has published guidance for cooperation that is needed between local emergency management agencies, such as County DEM, and the water providers serving the local communities. Its recommendations include:

- Sharing contact information between the agencies and water providers;
- Joint training and exercises and mutual facilities tours;

<sup>46</sup> Grand Jury interviews; BAWSCA, “Member Agency Profiles”, accessed June 11, 2022, <https://bawasca.org/members/profiles>



- Creating a “water desk” at the emergency agency; and
- Coordinating public messaging during a water emergency.<sup>47</sup>

The Grand Jury found a gap between these recommendations and County DEM practices. County DEM informed us that it had no water desk, had not conducted emergency water interruption exercises, had not developed a coordination plan for emergency water interruption, and did not have a current list of emergency contacts for County water providers.

Several water providers informed the Grand Jury that they had, had no recent contact with the County DEM. Several informed us that they believe the County should be responsible for countywide water disaster exercises. To date, County DEM has conducted emergency preparedness exercises, but none addressing catastrophic water interruption.

## **FINDINGS**

The following findings apply to the specific governing bodies identified under “Request For Responses” below:

- F1. The water provider was unable to demonstrate that it conducts the emergency exercises specified by its ERP, which may compromise its ability to supply water following a catastrophic interruption in water distribution service.
- F2. The water provider was not able to produce documentation analyzing past exercises to test readiness and improve their performance, which may compromise its ability to supply water following a catastrophic interruption in water distribution service.
- F3. The water provider does not have three days of emergency water storage, which may compromise its ability to supply water following a catastrophic interruption in water distribution service.
- F4. The water provider does not have three days of emergency fuel storage, which may compromise its ability to supply water following a catastrophic interruption in water distribution service.
- F5. The County Department of Emergency Management has not followed EPA recommendations that it coordinate disaster response with County water providers, which may compromise its ability to coordinate a response to a catastrophic interruption in water distribution service.

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<sup>47</sup> EPA, “Connecting Water Utilities and Emergency Management Agencies”, accessed June 10, 2022, [https://www.epa.gov/sites/default/files/2018-05/documents/water\\_emaconnection.pdf](https://www.epa.gov/sites/default/files/2018-05/documents/water_emaconnection.pdf)

## **RECOMMENDATIONS**

The following recommendations apply to the specific governing bodies identified under “Request for Responses” below:

- R1. The Grand Jury recommends that, by March 31, 2023, the water provider perform emergency preparedness exercises consistent with its emergency response plan.
- R2. The Grand Jury recommends that, by March 31, 2023, the water provider perform an analysis and document an After-Action Report consistent with its emergency response plan.
- R3. The Grand Jury recommends that, by March 31, 2023, the water provider develop plans to increase emergency water storage sufficient to provide emergency water for a period of at least three days.
- R4. The Grand Jury recommends that, by March 31, 2023, the water provider develop plans to increase emergency fuel storage sufficient to provide emergency fuel for a period of at least three days.
- R5. The Grand Jury recommends that, by December 31, 2022, the County Department of Emergency Management develop a plan to bring its policy in line with EPA recommendations to coordinate disaster response with County water providers.

## REQUEST FOR RESPONSES

Pursuant to Penal Code Section 933.05, the Grand Jury requests responses from the following governing bodies:

Water Provider	F1	F2	F3	F4	F5	R1	R2	R3	R4	R5
Brisbane/GV Municipal Improvement District	X	X				X	X			
Hillsborough	X	X	X	X		X	X	X	X	
Westborough Water District	X	X		X		X	X		X	
Coastside County Water District	X	X				X	X			
East Palo Alto	X	X	X	X		X	X	X	X	
Mid-Peninsula Water District	X	X		X		X	X		X	
Estero Municipal Improvement District	X	X				X	X			
North Coast County Water District	X	X		X		X	X		X	
Redwood City	X	X	X			X	X	X		
Daly City	X	X				X	X			
San Mateo County					X					X

The governing bodies indicated above should be aware that the comment or response of the governing body must be conducted subject to the notice, agenda, and open meeting requirements of the Brown Act.

## RESPONSE REQUIREMENTS

California Penal Code Section 933.05, provides (emphasis added):

(a) For purposes of subdivision (b) of Section 933, as to each grand jury finding, the responding person or entity shall report one of the following:

(1) The respondent **agrees** with the finding.

(2) The respondent **disagrees** wholly or partially with the finding; in which case the response shall **specify the portion of the finding that is disputed and shall include an explanation of the reasons therefor.**

(b) For purposes of subdivision (b) of Section 933, as to each grand jury recommendation, the responding person or entity shall report one of the following actions:

(1) The recommendation has been implemented, **with a summary regarding the implemented action.**

(2) The recommendation has not yet been implemented, but will be implemented in the future, **with a timeframe for implementation.**

(3) The recommendation requires further analysis, **with an explanation and the scope and parameters of an analysis or study, and a timeframe for the matter to be prepared for**

**discussion by the officer or head of the agency or department being investigated or reviewed, including the governing body of the public agency when applicable. This timeframe shall not exceed six months from the date of publication of the grand jury report.**

(4) The recommendation will not be implemented because it is not warranted or is not reasonable, **with an explanation therefor.**

## **METHODOLOGY**

### **Preliminary Research**

The Grand Jury reviewed many news articles and many publicly-available materials that described how water is distributed to San Mateo County and damage that may be caused by catastrophic earthquakes. We also researched which Federal, State, and local agencies help regulate water in San Mateo County. The sources of such documents included various departments of San Mateo County government, LAFCO, Federal and State agencies (including EPA, FEMA, DHS, and USGS), BAWSCA, and others.

### **Interviews and Document Requests**

The Grand Jury conducted 27 interviews of public officials representing San Mateo County government departments, the San Francisco Public Utilities Commission, and water providers serving customers across San Mateo County. These included individuals that had general and specific knowledge regarding emergency services, water provision, and water ecosystems in San Mateo County. The Grand Jury also reviewed a multitude of documents provided by these agencies in response to document requests.

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## **List of Appendices**

Appendix A: Select Federal and State Laws Affecting Water Providers

Appendix B: California Water Service, Areas Served

Appendix C: Earthquake Resiliency Guide

Appendix D: EPA Incident Action Checklist – Earthquake

## APPENDIX A

### SELECT FEDERAL AND STATE LAW AFFECTING WATER PROVIDERS

#### America's Water Infrastructure Act of 2018

Section 2013 of the law requires providers serving more than 3,300 people to develop and submit to the EPA a Risk and Resilience Assessment (Resiliency Assessment) as well as an Emergency Response Plan (ERP). The law requires that both documents include specific information.

#### Risk and Resilience Assessment (Section 2013)

- 1) "...[t]he risk to the system from malevolent acts and natural hazards;
- 2) the resilience of the pipes and constructed conveyances, physical barriers, source water, water collection and intake, pretreatment, treatment, storage and distribution facilities, electronic, computer, or other automated systems (including the security of such systems) which are utilized by the system;
- 3) the monitoring practices of the system;
- 4) the financial infrastructure of the system;
- 5) the use, storage, or handling of various chemicals by the system; and
- 6) the operation and maintenance of the system."

#### Emergency Response Plan (Section 2013)

1. "...strategies and resources to improve the resilience of the system, including the physical security and cybersecurity of the system;
2. plans and procedures that can be implemented, and identification of equipment that can be utilized, in the event of a malevolent act or natural hazard that threatens the ability of the community water system to deliver safe drinking water;
3. actions, procedures and equipment which can obviate or significantly lessen the impact of a malevolent act or natural hazard on the public health and the safety and supply of drinking water provided to communities and individuals, including the development of alternative source water options, relocation of water intakes and construction of flood protection barriers; and
4. strategies that can be used to aid in the detection of malevolent acts or natural hazards that threaten the security or resilience of the system."



## California Water Code

At the State level, California Water Code California Water Code, [§10610-10656](#) and [§10608](#) specify that water providers serving more than 3,000 connections develop and submit an Urban Water Management Plan.

### Urban Water Management Plan (UWMP)

The UWMP is largely focused on the need for providers to develop measures to reduce demand and to design sets of mitigation measures for possible implementation in the event of drought conditions or emergency loss of water service resulting from natural disaster. The UWMP is required to:

- (1) Assess the reliability of water sources over a 20-year planning time frame.
- (2) Describe demand management measures and water shortage contingency plans.
- (3) Report progress toward meeting a targeted 20 percent reduction in per-capita (per-person) urban water consumption by the year 2020.
- (4) Discuss the use and planned use of recycled water.

## APPENDIX B

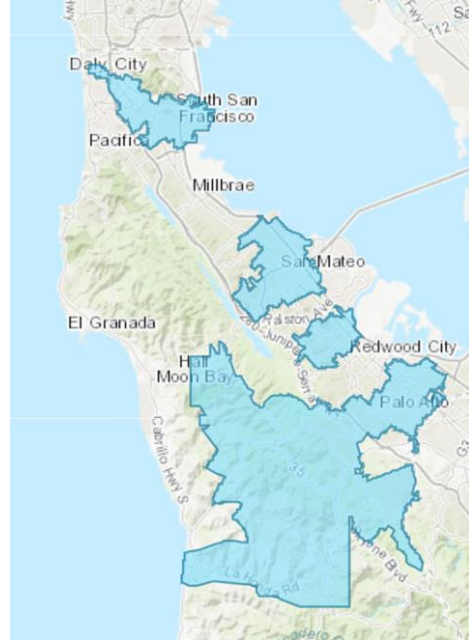
### CALIFORNIA WATER SERVICE, AREAS SERVED

Bayshore District - services the cities of

- San Carlos
- San Mateo
- South San Francisco
- Colma

Bear Gulch District – services the cities of

- Portola Valley
- Woodside
- Atherton
- Menlo Park
- Unincorporated Portions of San Mateo County



California Water Service (an investor-owned water provider) provides water to residents in these cities through its Bayshore and Bear Gulch districts. California Water Service rates and operations are regulated by the California Public Utility Commission.

## APPENDIX C

### EPA, “Earthquake Resiliency Guide” (2018)

<https://www.epa.gov/waterutilityresponse/earthquake-resilience-guide> (accessed June 15, 2022).

**EARTHQUAKE RESILIENCE GUIDE**  
**for Water and Wastewater Utilities**

Select a menu option below.

**THE SURVIVING QUAKE**

**Introduction and Video**

**Step 1. Understand the Earthquake Threat**

**Step 2. Identify Vulnerable Assets and Determine Consequences**

**Step 3. Pursue Mitigation and Funding Options**

**EPA**

Disclaimer: This guide is not intended to serve as regulatory guidance. Mention of trade names, products or services does not convey official United States Environmental Protection Agency (EPA) approval, endorsement or recommendation for use.

EPA Office of Water (4608T) | EPA 810-B-18-001 | March 2018

Next ▶

## APPENDIX D

### EPA Incident Action Checklist – Earthquake

x



### Incident Action Checklist – Earthquake

#### Earthquake Impacts on Water and Wastewater Utilities

An earthquake is caused by the shifting of tectonic plates beneath the Earth's surface. Ground shaking from moving geological plates collapses buildings and bridges, and sometimes triggers landslides, avalanches, flash floods, fire and tsunamis. The strong ground motion of earthquakes has the potential to cause a great deal of damage to drinking water and wastewater utilities, particularly since most utility components are constructed from inflexible materials (e.g., concrete road pipes). Earthquakes create many cascading and secondary impacts that may include, but are not limited to:

- Structural damage to facility infrastructure and equipment
- Water tank damage or collapse
- Water source transmission line realignment or damage
- Damage to distribution lines due to shifting ground and soil liquefaction, resulting in potential water loss, water service interruptions, low pressure, contamination and sinkholes and/or large pools of water throughout the service area
- Loss of power and communication infrastructure
- Restricted access to facilities due to debris and damage to roadways



FEMA

The following sections outline actions water and wastewater utilities can take to prepare for, respond to and recover from an earthquake.



## CITY OF BRISBANE

Department of Public Works  
50 Park Place  
Brisbane, CA 94005-1310  
(415) 508-2130

October 21, 2022

Hon. Amarra A. Lee  
Judge of the Superior Court  
c/o Jenarda Dubois  
Hall of Justice  
400 County Center; 2<sup>nd</sup> Floor  
Redwood City, CA 94063-1655

Subject: Response to 2021-2022 Grand Jury 8/5/22 report, “The *Other* Water Worry: Is Your Water Provider Prepared for the Big One?”

Dear Judge Lee,

Thank you for the opportunity to review and comment on the findings of the Grand Jury. This letter serves as the City of Brisbane’s response to the findings and recommendations found therein. Please note this report was approved by the Brisbane City Council at its October 20, 2022 meeting.

### **FINDINGS**

F1. The water provider was unable to demonstrate that it conducts the emergency exercises specified by its ERP, which may compromise its ability to supply water following a catastrophic interruption in water distribution service.

#### City Response to F1:

The city disagrees partially with the finding. As of the date of city staff interviews with members of the Grand Jury, the then current census results showed that neither water district (City of Brisbane nor Guadalupe Valley Municipal Improvement District) served a population of over 3,300 and both districts were therefore not required to have an ERP. Notwithstanding the absence of an ERP, city staff do successfully respond on a regular basis to water emergencies within both our systems. Additionally, anticipating that our populations would eventually trigger the requirement to prepare an ERP, the city authorized that work to begin in 2021.

F2. The water provider was not able to produce documentation analyzing past exercises to test readiness and improve their performance, which may compromise its ability to supply water

following a catastrophic interruption in water distribution service.

City Response to F2:

The city partially disagrees with the finding for the reasons noted above. Additionally, the city notes that grand jury members were referred to the SFPUC emergency preparedness staff to request copies of documentation of past multi-agency annual exercises. The city is unaware if an inquiry was made to SFPUC to obtain the records kept by the entity conducting the exercise.

**RECOMMENDATIONS**

R1. The Grand Jury recommends that, by March 31, 2023, the water provider perform emergency preparedness exercises consistent with its emergency response plan.

City Response to R1:

The recommendation will not be implemented until such time as the city is required to and has developed a final ERP.

R2. The Grand Jury recommends that, by March 31, 2023, the water provider perform an analysis and document an After-Action Report consistent with its emergency response plan.

City Response to R2:

The recommendation will not be implemented until such time as the city is required to and has developed a final ERP.

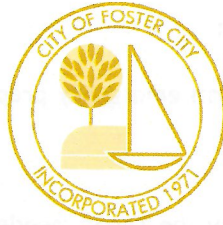
Please call me at (415) 508-2131 if there are any questions regarding this matter.

Very truly yours,



Randy L. Breault, P.E.  
Director of Public Works/City Engineer

Cc: Grand Jury website (sent via email to [grandjury@sanmateocourt.org](mailto:grandjury@sanmateocourt.org) )  
Brisbane City Clerk



## OFFICE OF THE CITY COUNCIL *City of Foster City*

October 4, 2022

Honorable Amarra A. Lee  
Judge of the Superior Court  
c/o Jenarda Dubois  
Hall of Justice  
400 County Center; 2nd Floor  
Redwood City, CA 94063-1655

RE: RESPONSE FROM THE ESTERO MUNICIPAL IMPROVEMENT DISTRICT (EMID) TO THE SAN MATEO COUNTY CIVIL GRAND JURY REPORT "THE OTHER WATER WORRY: IS YOUR WATER PROVIDER PREPARED FOR THE BIG ONE?"

Honorable Amarra A. Lee:

Thank you for the opportunity to review and comment on the above referenced Grand Jury Report issued on August 5, 2022. EMID's responses to both the findings and recommendations are listed below.

### **Responses to Grand Jury Findings:**

F1. The water provider was unable to demonstrate that it conducts the emergency exercises specified by its ERP, which may compromise its ability to supply water following a catastrophic interruption in water distribution service.

#### Response to F1:

EMID partially disagrees with this finding because EMID's currently certified Emergency Response Plan does not contain a specified timeline for emergency exercises. However, the current EMID Emergency Response Plan was exercised in November 2021 prior to its certification in December 2021.

F2. The water provider was not able to produce documentation analyzing past exercises to test readiness and improve their performance, which may compromise its ability to supply water following a catastrophic interruption in water distribution service.

#### Response to F2:

EMID agrees with the finding.

## Responses to Grand Jury Recommendations:

R1. By March 31, 2023, the water provider perform emergency preparedness exercises consistent with its emergency response plan.

Response to R1:

The recommendation will not be implemented by the recommended due date, but EMID will perform at least one emergency preparedness exercise consistent with its Emergency Response Plan before December 31, 2023.

R2. By March 31, 2023, the water provider perform an analysis and document an After-Action Report consistent with its emergency response plan.

Response to R2:

The recommendation will not be implemented by the due date, but EMID will perform an analysis and document at least one After-Action Report consistent with its emergency response plan before December 31, 2023.

Pursuant to Penal Code Section 933.05 and the Brown Act, this response was considered by the EMID Board at a public meeting on October 3, 2022. Should you have any questions concerning this response, please contact Public Works Director Louis Sun at (650) 286-3279.

Respectfully,

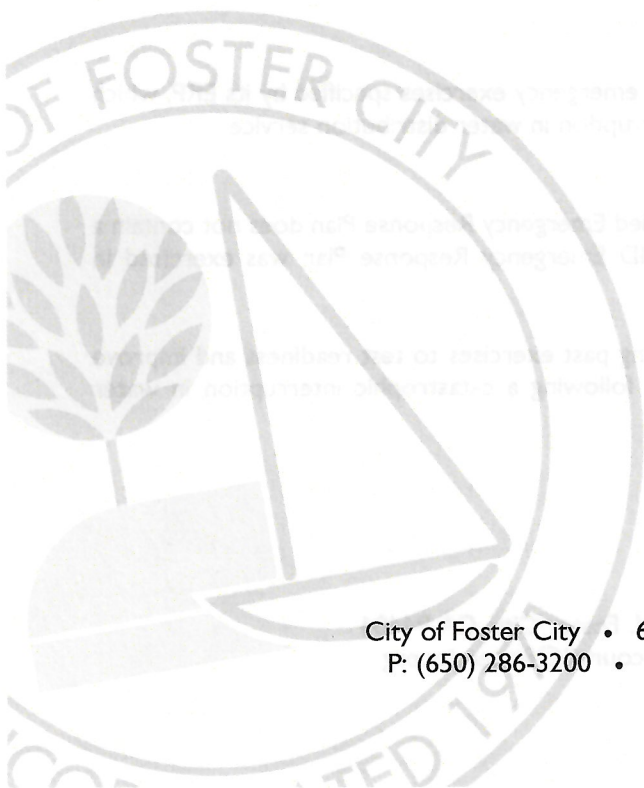
*Richa Awasthi*

Richa Awasthi (Oct 6, 2022 15:18 CDT)

Richa Awasthi

President

Estero Municipal Improvement District Board of Directors





# MINUTE ORDER

**No. 1880**

OFFICE OF THE CITY CLERK  
FOSTER CITY, CALIFORNIA

Date: October 4, 2022

Attention: City Council/EMID Board  
Stefan Chatwin, City/District Manager  
Louis Sun, Public Works Director

City Council/EMID Board of Directors Meeting Date: October 3, 2022

Subject: Response to the San Mateo County Civil Grand Jury Report, Dated August 5, 2022, Entitled "The Other Water Worry: Is Your Water Provider Prepared for the Big One?"

Motion by Councilmember Gehani, seconded by Vice Mayor Froomin, and carried unanimously by roll call vote,, 5-0-0, IT WAS ORDERED, to approve the response to Honorable Amarra A. Lee Judge of the Superior Court in Response to the San Mateo County Civil Grand Jury Report, Dated August 5, 2022, Entitled "The Other Water Worry: Is Your Water Provider Prepared for the Big One?".

DocuSigned by:

*Yelena Cappello*

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CITY CLERK/DISTRICT SECRETARY  
BY: YELENA CAPPELLO, ACTING CITY  
CLERK/DISTRICT SECRETARY

Mayor Giselle Hale  
Vice Mayor Diana Reddy

Council Members  
Alicia C. Aguirre  
Lissette Espinoza-Garnica  
Jeff Gee  
Diane Howard  
Elmer Martinez Saballos



1017 Middlefield Road  
Redwood City, CA 94063  
(650) 780-7301  
Fax (650) 780-7225

Hon. Amarra A. Lee  
Judge of the Superior Court  
c/o Jenarda Dubois  
Civil Grand Jury Coordinator  
Hall of Justice  
400 County Center; 2<sup>nd</sup> Floor  
Redwood City, CA 94063-1655

**Re: San Mateo County Civil Grand Jury Report titled “The Other Water Worry: Is Your Water Provider Prepared for the Big One?” - Released on August 5, 2022**

Dear Honorable Lee,

The City of Redwood City (City) received the San Mateo County Civil Grand Jury Report titled “The Other Water Worry: Is Your Water Provider Prepared for the Big One?” released on August 5, 2022. The report instructed the City to respond to Findings F1, F2 and F3 and to respond to Recommendations R1, R2 and R3. Pursuant to Penal Code Section §933(c), the following response to the Grand Jury Report was reviewed and approved by the City Council at its meeting on October 3, 2022:

**Findings**

F1. The water provider was unable to demonstrate that it conducts the emergency exercises specified by its ERP, which may compromise its ability to supply water following a catastrophic interruption in water distribution service.

Response: Partially Disagree

The Water Utilities Division of the City conducted a tabletop exercise on August 31, 2021, after the Water System Emergency Response Plan (ERP) was updated per AWIA requirements. All Water Division staff in attendance that day participated in the exercise which included a review of the ERP, Incident Command System structure, and the roles and responsibilities for Water Division staff prior to conducting the exercise. The exercise scenario was a 7.2 magnitude earthquake just north of Redwood City on the San Andreas Fault. The scenario discussed challenges staff would encounter when responding which included potential disruptions to major transportation infrastructure, communications, and power outages. The exercise included issues specific to Redwood City’s water system for staff to work through and determine corrective or mitigating actions.

F2. The water provider was not able to produce documentation analyzing past exercises to test readiness and improve their performance, which may compromise its ability to supply water following a catastrophic interruption in water distribution service.

Response: Agree

F3. The water provider does not have three days of emergency water storage, which may compromise its ability to supply water following a catastrophic interruption in water distribution service.

Response: Partially Agree

Figure 4 in the Report shows average daily water demand for Redwood City to be 9.2 million gallons per day (MGD). It should be noted this is total water demand for Redwood City which includes both potable water and recycled water, and in FY 2020-21 recycled water accounted for 8% of the City's total water demands.

The days of emergency water storage in Figure 9 of the Report appear to be calculated using BAWSCA Member Agency Profiles. However, the total local storage values in the BAWSCA Member Agency Profile for Redwood City did not include 4.2 million gallons (MG) of recycled water storage the City has. Additionally, the City recently constructed a new water storage facility adding 0.75 MG of potable water storage to the water system. Given this information total water storage for the City is 26.2 MG providing 2.8 days of water storage. If recycled water is not included the City has 2.6 days of potable water storage. Recycled water storage will last 3.1 days based on FY 2020-21 recycled water demand.

### **Recommendations**

R1. The Grand Jury recommends that, by March 31, 2023, the water provider perform emergency preparedness exercises consistent with its emergency response plan.

Response: The recommendation has been implemented. The City's ERP requires training and exercises to be conducted annually at a minimum. The first exercise following the update to the ERP was conducted in August of 2021. An exercise is planned for Fall 2022 following an update to training materials to be used for orientation of new employees and a refresher for existing employees to the ERP. Exercises will be conducted using Homeland Security Exercise and Evaluation Program (HSEEP) methods.

R2. The Grand Jury recommends that, by March 31, 2023, the water provider perform an analysis and document an After-Action Report consistent with its emergency response plan.

Response: The recommendation has been implemented. In conformance with HSEEP at the conclusion of each exercise participants will be provided an evaluation form to provide feedback on the exercise and participate in an after-action conference (hot wash). Following the exercise and hot wash all documentation will be compiled into an after-action report which will include lessons learned and areas for improvement to be incorporated into the ERP.

R3. The Grand Jury recommends that, by March 31, 2023, the water provider develop plans to increase emergency water storage sufficient to provide emergency water for a period of at least three days.

Response: The recommendation has been implemented. In 2011 Redwood City adopted a Water System Master Plan (Master Plan) that identifies the need for an additional 6 MG of potable water storage. Adding 6 MG of potable water storage would allow the City to provide water for 3.2 days based on FY 2020-21 potable water demands. Since the adoption of the Master Plan the City has constructed one additional storage facility adding 0.75 MG of potable water storage and working on identifying suitable locations for the remainder of the 6 MG of storage.

On behalf of the City Council of the City of Redwood City, I would like to thank you for the opportunity to review and comment on the above referenced Grand Jury Report.

Sincerely,

A handwritten signature in black ink, appearing to read "Giselle", is centered on a light gray horizontal line.

Giselle Hale  
Mayor  
City of Redwood City

Cc: City Council, Redwood City  
Melissa Stevenson Diaz, City Manager  
Terence Kyaw, Public Works Service Director  
Mark Muenzer, Community Development and Transportation Director



October 12, 2022

The Honorable Amarra A. Lee  
Judge of the Superior Court  
c/o Jenarda Dubois  
Civil Grand Jury Coordinator  
Hall of Justice  
400 County Center, 2nd Floor  
Redwood City, CA 94063-1655

**Subject: Coastside County Water District Response to Grand Jury Report Entitled “The Other Water Worry: Is your Water Provider Prepared for the Big One?”**

Dear Judge Lee,

The Coastside County Water District (District) received the August 5, 2022 Grand Jury report entitled “The Other Water Worry: Is Your Water Provider Prepared for the Big One?” The District's Board of Directors reviewed the report and approved this response at the October 11 regular Board meeting. This letter responds to the Civil Grand Jury's findings and recommendations in the report.

**Findings:**

F1. The water provider was unable to demonstrate that it conducts the emergency exercises specified in its ERP, which may compromise its ability to supply water following a catastrophic interruption in water distribution service.

*Response:*

The District disagrees partially with the finding. In 2021, District staff spent over 250 hours along with 350 consulting hours to prepare a Risk and Resilience Assessment of the District and an updated Emergency Response Plan (ERP) in accordance with the American Water Infrastructure Act (AWIA). The ERP preparation included conducting (6) Workshops to formulate Incident Action Checklists for priority emergencies including earthquakes with key emergency management staff. The District's ERP was completed in December 2021 and certified with the US Environmental Protection Agency on December 20, 2021.

The District was interviewed by the Civil Grand Jury just 2 months after the comprehensive update of the District's ERP, so the District was unable to demonstrate that it had conducted tabletop or operations-based exercises as recommended by the ERP certified in December 2021. As of this writing, key District emergency management staff are in the process of taking the recommended SEMS and ICS (FEMA) courses. In accordance with conducting annual training per the ERP for calendar year 2022, District staff have planned four exercises, including interagency exercises. On October 5, 2022, eight District emergency staff participated in the San Mateo County Department of Emergency Management Tsunami Tabletop exercise. (The exercise included ap. 70 participants from multiple County and State agencies.)

The District's staff and Board of Directors take seriously its responsibility as the water provider and first responder in water emergencies for a population of 19,000 on the San Mateo coast. Although conducting interagency exercises was limited over the last few years due to COVID, emergency preparedness is a foremost and ever-present priority for Coastside County Water District staff and the Board in day-to-day activities. These efforts include:

- On average, District operations staff responds to 10-12 after hours emergencies annually (including storm damage, lightning strikes, and main breaks) and staff routinely review such events after the fact in weekly staff meetings for emergency response improvements. The PG&E PSPS events and the CZU fire also presented valuable hands-on learning experiences in recent years.
- District operations staff maintain Distribution and Water Treatment professional certifications along with ongoing continuing education requirements. Staff regularly conduct safety tailgate activities; CPR and AED training; backflow; fire extinguisher and prevention training for example. In addition, staff frequently work with vendors to exercise equipment including pumps and alarm systems. Generators are exercised monthly and serviced/load bank tested annually.
- In January 2021, the District performed an emergency pump test exercise with Coastside Fire Protection District which provided District and Fire Staff with hands-on experience working together utilizing emergency equipment.
- In the summer of 2021, the District staff spent 40+ hours completing the San Mateo County Local Hazard Mitigation Annex Plan (approved by FEMA in December 2021.) The District is also an active member of California Water/Wastewater Agency Response Network (CalWARN) and California Utilities Emergency Association (CUEA). District staff also attends the monthly Coastal Emergency Action Plan (CEAP) meetings.
- The District's 10-year Capital Improvement Program includes \$68 Million in infrastructure spending to improve the District's resiliency and seismic vulnerabilities, including replacement of three aging water tanks and many aging pipelines. In 2021-2022, the District implemented Cityworks Asset Management System and accompanying workflows to allow for tracking of the condition of the District's infrastructure.
- Over the last 5 years alone, the District has invested \$1.7M in equipment targeting emergency preparedness including generators, emergency response vehicles, and spare parts inventories for emergency repairs. In 2022, the District received a \$200K grant from Cal-OES and purchased an above-ground split fuel tank with the capacity to hold 5,000 gallons of diesel and 1,000 gallons of unleaded. This tank provides 15-20 days of emergency fuel storage for generators and vehicles.

In summary, the outlined emergency efforts noted above go beyond tabletop exercises. The District does not agree that the absence of recent formal tabletop exercises as specified in the ERP compromises or reduces the District's ability to supply water or effectively respond to a catastrophic interruption in water distribution service.

F2. The water provider was not able to produce documentation analyzing past exercises to test readiness and improve their performance, which may compromise its ability to supply water following a catastrophic interruption in water distribution service.

*Response:*

The District disagrees partially with the finding. The District's formal documentation is limited and has historically not been in the recommended FEMA format noted in the ERP certified as of December 2021.

The District does not agree that the lack of this documentation compromises or reduces the District's ability to supply water or effectively respond to a catastrophic interruption in water distribution service.

The December 2021 updated ERP recommends the FEMA format: "Training documentation, such as class rosters, syllabus, evaluation checklists and copies of certificates, are kept on file. Exercise documentation includes an After Action Report (AAR) that encompasses a scenario synopsis, list of participants, best practices and lessons learned."

District staff are in the process of implementing the recommended documentation including an After Action Report format to be used to document future exercises.

**Responses to Recommendations:**

R1: The Grand Jury recommends that by March 31, 2023, the water service provider performs emergency preparedness exercises consistent with its emergency response plan.

*Response:*

The District has not yet fully implemented this recommendation but as stated in the response to F1 above, the District has started to implement it and it will be fully implemented by March 31, 2023.

R2: The Grand Jury recommends that, by March 31, 2023, the water provider perform an analysis and document an After Action Report consistent with its emergency response plan.

*Response:*

The District has not yet implemented this recommendation but it will be implemented by March 31, 2023.

On behalf of the District's Board of Directors and staff, I would like to extend the District's appreciation to the Civil Grand Jury for their efforts and interest in better understanding the emergency preparedness of water providers in the County. As first responders, water providers can never be too prepared for earthquakes and other emergencies, and we welcome the Grand Jury's insights for improvements. We also welcome the opportunity to work closer with the County of San Mateo and other agencies in planning coordinated responses for emergencies.

The Honorable. Amara A. Lee  
October 12, 2022  
Page 4

Please let us know if the District can provide additional information.

Very truly yours,

A handwritten signature in cursive script that reads "Robert Feldman".

Robert Feldman  
President, Board of Directors  
Coastside County Water District

cc: Board of Directors  
Mary Rogren, General Manager





3 Dairy Lane, Belmont, CA 94002

tel: 650.591.8941 fax: 650.591.4998 [MidPeninsulaWater.org](http://MidPeninsulaWater.org)

October 27, 2022

Hon. Amarra A. Lee  
Judge of the Superior Court  
c/o Jenarda Dubois  
Civil Grand Jury Coordinator  
Hall of Justice  
400 County Center, 2<sup>nd</sup> Floor  
Redwood City, CA 94063-1655

Re: Response by Mid-Peninsula Water District to Grand Jury Report Entitled "The Other Water Worry: Is Your Water Provider Prepared for the Big One?" issued August 5, 2022

#### **BOARD OF DIRECTORS**

*KIRK R. WHEELER*  
President

*LOUIS J. VELLA*  
Vice-President

*MATTHEW P. ZUCCA*  
Director

*CATHERINE M. JORDAN*  
Director

*BRIAN SCHMIDT*  
Director

#### **OFFICERS**

*RENE RAMIREZ*  
Interim General Manager

*KAT WUELFING*  
Assistant General Manager

*MONIQUE MADRID*  
Administrative Services Manager

*TAMMY RUDOCK*  
Management Advisor

*JULIE SHERMAN*  
District Counsel

*JOUBIN PAKPOUR, PE*  
District Engineer

*SHELDON CHAVAN, CPA*  
District Treasurer

Honorable Lee:

The Mid-Peninsula Water District (MPWD) has reviewed and considered the referenced Grand Jury report, and responds to the report's findings and recommendations as follows.

#### **RESPONSES TO FINDINGS**

- **F1** – The MPWD disagrees with Finding 1. The MPWD's Emergency Response Plan (ERP) was completed and certified prior to December 31, 2021, and MPWD continually conducts emergency response trainings with its employees and participates in trainings and exercise with other local water suppliers (i.e., San Francisco Public Utilities Commission [SFPUC], Bay Area Water Supply and Conservation Agency [BAWSCA], and California Water Service Company [Cal Water]).
- **F2** – The MPWD agrees with Finding 2, as the specific requested documentation has not been maintained.
- **F4** – The MPWD partially disagrees with Finding 4. MPWD maintains at least 3 days of fuel supply for all but one portion of its operations. However, this portion of our operations does not operate continually, and therefore it is difficult to estimate whether or not the available stored fuel will be sufficient for a full three days. Due to the sensitive nature of this information, MPWD cannot provide further detail herein. Current on-site fuel storage notwithstanding, MPWD is an active member of the San Mateo County Emergency Managers Association (SMCEMA). Previously, San Mateo County Department of Emergency Management started developing a "county-wide fueling plan," in which MPWD intends to participate; however, this plan has not been completed.

**RESPONSES TO RECOMMENDATIONS**

- **R1** – The MPWD’s ERP was certified prior to December 31, 2021. The MPWD continually conducts emergency response trainings with its employees and participates in trainings and exercise with other local water suppliers (i.e., SFPUC, BAWSCA, and Cal Water). The MPWD will continue with its ongoing training and emergency preparedness exercises both internally and with partnership agencies, consistent with its ERP. Given that these activities are ongoing, MPWD considers this recommendation to have already been implemented.
- **R2** – The MPWD will perform an analysis of the effectiveness of its exercises and drills and document these activities with After-Action Reports. Exercises and drills conducted through February 2023 will be documented by March 31, 2023.
- **R4** – This recommendation requires further analysis, because, as noted above, one portion of our operation does not operate continually, and therefore it is difficult to estimate whether or not the available stored fuel will be sufficient for a full three days. The MPWD will analyze the adequacy of its fuel storage needed under a range of operational conditions, and if warranted, will take steps to increase fuel storage. The MPWD anticipates completing this analysis by March 31, 2023. The MPWD will also continue to participate in efforts with the SMCEMA to for regional coordination, including regional fuel plans, as they are developed.

This response was considered and approved by the MPWD Board of Directors at its regularly scheduled meeting on Thursday, October 27, 2022.

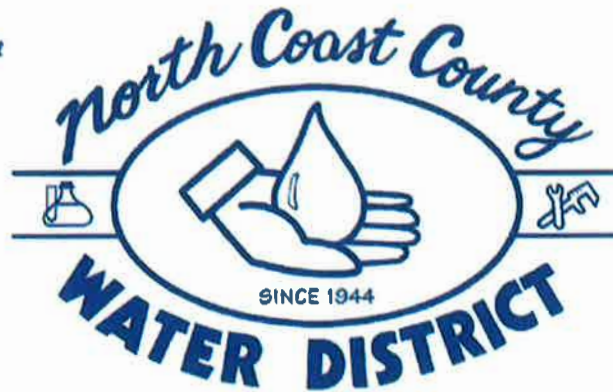
Sincerely,



Rene A. Ramirez  
Interim General Manager

## DIRECTORS

THOMAS J. PICCOLOTTI, *President*  
JACK BURGETT, *Vice-President*  
JOSHUA COSGROVE, *Director*  
RON ASH, *Director*  
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## STAFF

ADRIANNE CARR, PH.D.  
GENERAL MANAGER

SCOTT DALTON  
ASSISTANT GENERAL MANAGER  
- OPERATIONS

Phone (650) 355-3462  
Fax (650) 355-0735

October 19, 2022

Honorable Amarra A. Lee  
Judge of the Superior Court  
c/o Jenarda Dubois  
Hall of Justice  
400 County Center, 2<sup>nd</sup> Floor  
Redwood City, CA 94063-1655

**Subject: North Coast County Water District Response to Grand Jury Report:  
“The Other Water Worry: Is Your Water Provider Prepared for the Big One?”**

Honorable Judge Amarra A. Lee:

The North Coast County Water District (District) hereby submits its responses to the findings and recommendations of the Grand Jury regarding its review of the Grand Jury Report: “The Other Water Worry: Is Your Water Provider Prepared for the Big One?” The District's Board of Directors reviewed the report and approved this response at the October 19 regular Board of Directors meeting. The Grand Jury made three (3) findings and three (3) recommendations that require a response from the District. Each finding and recommendation will be addressed separately.

### **Findings**

***F1. The water provider was unable to demonstrate that it conducts the emergency exercises specified by its ERP, which may compromise its ability to supply water following a catastrophic interruption in water distribution service.***

The District partially disagrees with the finding. In 2021, District staff spent over 150 hours along with over 550 consulting hours to prepare a Risk and Resilience Assessment and an updated Emergency Response Plan (ERP) in accordance with the American Water Infrastructure Act (AWIA). The District's RRA was certified with the US Environmental Protection Agency and its ERP was certified with the US Environmental Protection Agency in December 2021. The District was interviewed by the Civil Grand Jury just two months after the comprehensive update of the District's ERP, so the District was unable to demonstrate that it had conducted tabletop or operations-based exercises as recommended by the ERP certified in December 2021.

Prior to the adoption of the ERP, staff routinely took part in local emergency planning meetings, trainings and activities held by San Mateo County OES, City of Pacifica Police Department, and other entities.

The District does not agree that the absence of recent formal tabletop exercises as specified in the ERP compromises or reduces the District's ability to supply water or effectively respond to a catastrophic interruption in water distribution service.

***F2. The water provider was not able to produce documentation analyzing past exercises to test readiness and improve their performance, which may compromise its ability to supply water following a catastrophic interruption in water distribution service.***

The District disagrees partially with this finding. The District's formal documentation is limited and has historically not been in the recommended FEMA format noted in the ERP certified as of December 2021. However, the District does not agree that the lack of this documentation compromises or reduces the District's ability to supply water or effectively respond to a catastrophic interruption in water distribution service.

***F4. The water provider does not have three days of emergency fuel storage, which may compromise its ability to supply water following a catastrophic interruption in water distribution service.***

The District disagrees partially with this finding. While the District does not have three days of emergency fuel storage at each of its pump stations, the District can potentially manage the operation of emergency generators and distribution of fuel stored at each site to avoid any interruption in water service.

The District does not agree that the absence of three days of emergency fuel storage compromises or reduces the District's ability to supply water following a catastrophic interruption in water distribution service.

### **Recommendations**

***R1. The Grand Jury recommends that, by March 31, 2023, the water provider perform emergency preparedness exercises consistent with its emergency response plan.***

Recommendation R1 has not yet been implemented but will be implemented by March 31, 2023.

***R2. The Grand Jury recommends that, by March 31, 2023, the water provider perform an analysis and document an After-Action Report consistent with its emergency response plan.***

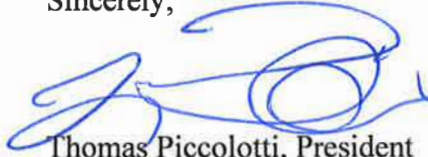
Recommendation R2 has not yet been implemented but will be implemented by March 31, 2023.

***R4. The Grand Jury recommends that, by March 31, 2023, the water provider develop plans to increase emergency fuel storage sufficient to provide emergency fuel for a period of at least three days.***

Recommendation R4 has not been implemented but will be implemented by March 31, 2023.

The District appreciates this opportunity to respond to the Grand Jury report on water supply and major seismic catastrophes and the importance of emergency preparedness. Should you require any additional information please do not hesitate to contact Adrienne Carr, General Manager at (650) 355-3462 or at [acarr@nccwd.com](mailto:acarr@nccwd.com).

Sincerely,



Thomas Piccolotti, President  
Board of Directors  
North Coast County Water District

cc: Board of Directors  
Adrienne Carr, General Manager



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**TOWN OF HILLSBOROUGH**  
*California*

October 11, 2022

Hon. Amarra A. Lee  
Judge of the Superior Court  
c/o Jenarda Dubois  
Civil Grand Jury Coordinator  
Hall of justice  
400 County Center; 2<sup>nd</sup> Floor  
Redwood City, CA 94063-1655

Re: Grand Jury Report: “The Other Water Worry: Is Your Water Provider Prepared for the Big One?”

Honorable Judge Lee:

Thank you for the opportunity to review and comment on the above referenced Grand Jury Report released on August 5, 2022. The Town of Hillsborough’s response to both the findings and recommendations are listed below.

**FINDINGS**

**F1. The water provider was unable to demonstrate that it conducts the emergency exercises specified by its ERP, which may compromise its ability to supply water following a catastrophic interruption in water distribution service.**

*Response: The Town Partially disagrees with this finding. Specifically, the Town disagrees that its ability to supply water following a catastrophic interruption in water distribution service may be compromised. The Town has an ERP, which was finalized on December 27, 2021. Current and new water staff will engage in emergency training to understand critical duties following a catastrophic interruption in water distribution services.*

**F2. The water provider was not able to produce documentation analyzing past exercises to test readiness and improve their performance, which may compromise its ability to supply water following a catastrophic interruption in water distribution service.**

*Response: The Town agrees with this finding. During the Town’s upcoming exercises, staff will document the Town’s readiness and keep a log of performance goals and objectives for each staff member involved to better prepare for a water distribution catastrophe.*

**F3. The water provider does not have three days of emergency water storage, which may compromise its ability to supply water following a catastrophic interruption in water distribution service.**

*Response: The Town agrees with this finding. While the Town does not currently have 3 days of emergency water storage, a project recently awarded, the Darrel Tank project, will replace two smaller ageing steel tanks with a single large concrete tank built to the latest earthquake seismic standards. This larger tank will add additional water storage, which will achieve the Town’s goal of 3 days of emergency storage.*

**F4. The water provider does not have three days of emergency fuel storage, which may compromise its ability to supply water following a catastrophic interruption in water distribution service.**

*Response: The Town partially disagrees with this finding. Specifically, the Town disagrees that not having three days of emergency fuel storage may compromise the Town's ability to supply water following a catastrophic interruption in water distribution service. The Town has large emergency portable generators on hand at the most critical pumping locations to fill its tanks. When the previous Public Safety Power Shutoff (PSPS) events lasted for more than 3 days, those events revealed the Town's vulnerabilities, and corrections have been made to improve the reliability of those pumps, improve fuel storage, and prepare staff to stage backup generators at key locations in the distribution system.*

## **RECOMMENDATIONS**

**R1. The Grand Jury recommends that, by March 31, 2023, the water provider perform emergency preparedness exercises consistent with its emergency response plan.**

*Response: The recommendation has not yet been implemented, but will be implemented in the future. The Town will perform emergency preparedness exercises consistent with its ERP before March 31, 2023.*

**R2. The Grand Jury recommends that, by March 31, 2023, the water provider perform an analysis and document an After-Action Report consistent with its emergency response plan.**

*Response: The recommendation has not yet been implemented, but will be implemented in the future. The Town will perform an analysis and document an After-Action Report consistent with its ERP before March 31, 2023.*

**R3. The Grand Jury recommends that, by March 31, 2023, the water provider develop plans to increase emergency water storage sufficient to provide emergency water for a period of at least three days.**

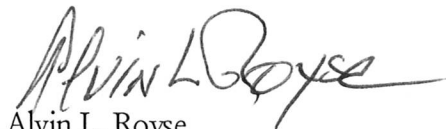
*Response: The recommendation has been implemented. The Town opened bids and the City Council awarded a new larger replacement water tank at the Darrel tank site on September 26, 2022. This new tank will increase the Town's system storage, and achieve 3 days of emergency water storage.*

**R4. The Grand Jury recommends that, by March 31, 2023, the water provider develop plans to increase emergency fuel storage sufficient to provide emergency fuel for a period of at least three days.**

*Response: This recommendation has not yet been implemented, but will be implemented in the future. By March 31, 2023, the Town will develop and implement plans to increase emergency fuel storage sufficient to provide emergency fuel for a period of at least 3 days.*

This response to the Grand Jury was approved by the Town of Hillsborough City Council at a public meeting on October 10, 2022.

Respectfully,



Alvin L. Royse  
Mayor, Town of Hillsborough



November 1, 2022

The Honorable Judge Leland Davis, III  
Presiding Judge  
Superior Court of California, County of San Mateo  
400 County Center, 2nd Floor  
Redwood City, CA 94063

Dear Honorable Judge Davis

Thank you for the opportunity to review and comment on the San Mateo County Civil Grand Jury Report titled "The Other Water Worry: Is Your Water Provider Prepared for the Big One?" issued on August 5, 2022 ("Report"). The City Council of the City of East Palo Alto (City) approved the following response to the Report at its November 1, 2022 meeting.

**The City's Responses to the Required Findings:**

The Report required the City to respond to Findings F1, F2, F3, and F4, as shown on page 19 of the Report.

*F1. The water provider was unable to demonstrate that it conducts the emergency exercise specified by its ERP, which may compromise its ability to supply water following a catastrophic interruption in water distribution service.*

**City of East Palo Alto:** The City **agrees** with this finding.

*F2. The water service provider was not able to produce documentation analyzing past exercises to test readiness and improve their performance, which may compromise its ability to supply water following a catastrophic interruption in water distribution service.*

**City of East Palo Alto:** The City **agrees** with this finding.

*F3. The water provider does not have three days of emergency water storage, which may compromise its ability to supply water following a catastrophic interruption in water distribution service.*

**City of East Palo Alto:** The City **agrees** with this finding.



**F4.** *The water provider does not have three days of emergency fuel storage, which may comprise its ability to supply water following a catastrophic interruption in water distribution services.*

**City of East Palo Alto:** The City *disagrees* with this finding.

Since the Grand Jury's investigation, the City determined there is adequate fuel storage for at least three days.

The City has only one facility that requires fuel storage to operate a standby generator, the "Gloria Way Well" and treatment system. The facility has an above ground storage tank that holds 516 gallons of diesel fuel and a Kohler Model 100REOZJF standby generator. The standby generator operating at 75% load, uses 6.6 gallons per hour or 475 gallons over three days, which is adequate to operate the emergency generator for a period of at least three days.

### **The City's Responses to Required Recommendations:**

The Report required the City of East Palo to respond to Recommendations R1, R2, R3, and R4, as shown on page 19 of the Report.

**R1.** *The Grand Jury recommends that, by March 31, 2023, the water provider perform emergency preparedness exercises consistent with its emergency response plan.*

**City of East Palo Alto:** This recommendation has not yet been implemented but will be implemented by the deadline of March 31, 2023.

The City's water operator, Veolia North America, Inc., (Veolia) will update its emergency response plan to identify the necessary actions to address its ability to supply water following a catastrophic interruption in water distribution service for at least three days. The City, Veolia, and the Menlo Park Fire Protection District (Menlo Park Fire) will conduct a joint emergency preparedness exercise.

**R2.** *The Grand Jury recommends that, by March 31, 2023, the water provider perform an analysis and document an After-Action Report consistent with the emergency response plan.*

**City of East Palo Alto:** This recommendation has not yet been implemented but will be implemented by the deadline of March 31, 2023.

The City, Veolia, and Menlo Park Fire will perform an analysis of the exercise and prepare an after-action report.

**R3.** *The Grand Jury recommends that, by March 31, 2023, the water provider develop plans to increase water storage sufficient to provide emergency water for a period of at least three days.*

**City of East Palo Alto:** This recommendation has not yet been implemented but will be implemented by the deadline of March 31, 2023.

The average daily water usage is 1.5 million gallons per day or 4.6 million gallons over three days.

On October 4, 2022, the City Council adopted a resolution approving and adopting the 2022 Water System Master Plan. As part of the plan, the City identified two water storage projects, the “Pad D” tank at the corner of E. Bayshore Road and Clarke Avenue and a second storage tank at 375 Donohoe Street. The two planned storage tanks have a combined capacity of 1.65 MG.

The “Pad D” water storage tank has been constructed by a developer and will be conveyed to the City in the future. The City is also working with the developers of the Ravenswood Business to construct and/or fund additional water storage facilities.

The City will develop a single plan to increase water storage sufficient to provide emergency water for a period of at least three days.

**R4.** *The Grand Jury recommends that, by March 2023, the water provider develop plans to increase the emergency fuel storage sufficient to provide to provide emergency fuel for a period of at least three days.*

**City of East Palo Alto:** Not applicable. Refer to City’s response to Finding F4.

On behalf of the City Council of the City of East Palo Alto, I would like to thank you for the opportunity to review and comment on the above referenced Grand Jury Report.

Sincerely,

Ruben Abrica, Mayor  
City of East Palo Alto



# OFFICE OF THE CITY MANAGER

## CITY OF DALY CITY

333 – 90<sup>TH</sup> STREET  
DALY CITY, CA 94015-1895  
(650) 991-8127

October 11, 2022

Honorable Amarra A. Lee  
Judge of the Superior Court  
c/o Jenarda Dubois  
Civil Grand Jury Coordinator  
Hall of Justice  
400 County Center, 2<sup>nd</sup> floor  
Redwood City, CA 94063-1655

Subject: To what extent are water providers in San Mateo County prepared to supply water to customers in the event of a major seismic catastrophe?

Dear Honorable Judge Amarra A. Lee,

On behalf of the City Council of the City of Daly City, I have been requested to submit for the City the following responses to the Civil Grand Jury findings to the above referenced report. The City Council met at the September 26, 2022 Council Meeting, reviewed the response below, and approved sending this letter.

### FINDINGS

F1. The water provider was unable to demonstrate that it conducts the emergency exercises specified by its ERP, which may compromise its ability to supply water following a catastrophic interruption in water distribution service.

*Response:*

The City disagrees partially with the finding. The City of Daly City Emergency Response Plan (ERP), developed in 2020 and finalized in 2021, specifies training such as providing information to employees on emergency preparedness, giving employees an opportunity to assess preparedness at work and home, and determine whether policies and procedures exist to handle specific situations which may arise during an emergency. It also specifies training on CPR Basic First Aid, fire extinguisher, and fire prevention. The training may be met through the use of videos, information handouts, table top exercises, plant evacuation drills, and discussions. The City has done many of these trainings and can provide documentation but has not completed the table top exercise of emergency response to the water system. Staff is working with engineering consultants and California Water/Wastewater Agency Response Network (CalWARN) to complete the table top exercise training before March 31, 2023.

F2. The water provider was not able to produce documentation analyzing past exercises to test readiness and improve their performance, which may compromise its ability to supply water following a catastrophic interruption in water distribution service.

*Response:*

The City disagrees partially with the finding. The ERP, developed in 2020 and finalized in 2021, specifies training such as providing information to employees on emergency preparedness, giving employees an opportunity to assess preparedness at work and home, and determine whether policies and procedures exist to handle specific situations which may arise during an

emergency. It also specifies training on CPR Basic First Aid, fire extinguisher, and fire prevention. The training may be met through the use of videos, information handouts, table top exercises, plant evacuation drills, and discussions. The City has done many of these trainings and can provide documentation but has not completed the table top exercise of emergency response to the water system. Staff is working with engineering consultants and California Water/Wastewater Agency Response Network (CalWARN) to complete the table top exercise training before March 31, 2023.

**RECOMMENDATIONS:**

R1. The Grand Jury recommends that, by March 31, 2023, the water provider perform emergency preparedness exercises consistent with its emergency response plan.

*Response:*

The City has not yet implemented this recommendation but will by March 31, 2023. The City is currently working with its engineering consultants and California Water/Wastewater Agency Response Network (CalWARN) to complete the table top exercise specified by the City's ERP. This exercise will include information on key facilities, emergency response roles, communication methods, public notification information, response actions and procedures, mitigation actions, and detection strategies. It will include incident action checklists for the possible water supply catastrophes like earthquake(s), drought, cybersecurity, flooding, wildfire, etc.

R2. The Grand Jury recommends that, by March 31, 2023, the water provider perform an analysis and document an After-Action Report consistent with its emergency response plan.

*Response:*

The City has not yet implemented this recommendation but will by March 31, 2023. The City is currently working with its engineering consultants and CalWARN to complete the exercise specified by the City's ERP. As part of this emergency preparedness exercise, the City and consultants will perform an analysis and document an After-Action Report that is consistent the Emergency Response Plan.

The City of Daly City appreciates the opportunity to provide responses to the San Mateo County Civil Grand Jury Report. The City Council approved the responses contained herein on October 10, 2022.

Should you or the Civil Grand Jury require additional information, please contact me directly at (650) 991-8127.

Respectfully,



Thomas J. Piccolotti  
Interim City Manager

- Director of Water and Wastewater Resources
- Chief of Operations
- Collection and Distribution System Supervisor
- Plant and Equipment Maintenance Supervisor
- One employee each from the Distribution System Maintenance Section, Collection System Maintenance Section, Plant and Equipment Maintenance Division, Water Operations Section, and Wastewater Operations Section

The responsibilities of the DRPG are as follows:

- Improve, update, and review the ERP
- Meet semi-annually to review response plan procedures and develop new procedures as needed
- Conduct annual response exercises and ensure that evaluation findings are incorporated into the ERP
- Ensure that alter-action critiques and reports are reviewed and changes implemented following an emergency event
- Ensure ongoing coordination and planning with the City's Emergency Plan Coordinator and the Fire Department

The Director of Water and Wastewater Resources is responsible for making sure that the DRPG meets and carries out its responsibilities.

### 3.4 Training

The objective of any emergency management organization is efficient and timely response during emergencies. A good plan is a first step toward that objective. However, planning alone will not guarantee preparedness. Training and exercises are essential in order for DWWR personnel to be prepared for emergencies.

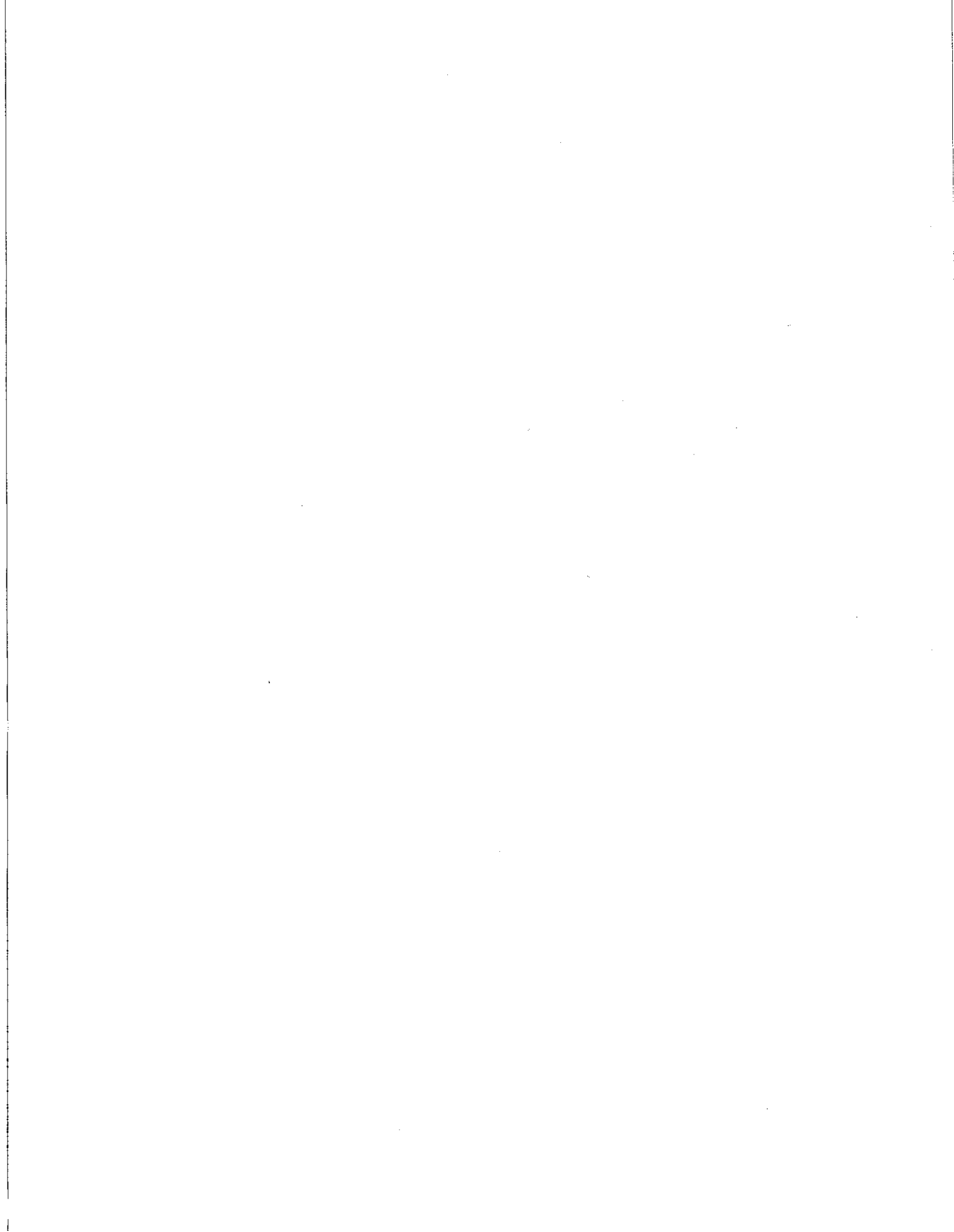
Every April, as part of Earthquake Preparedness Month, DWWR will hold Emergency Preparedness Training Sessions. These training sessions will be conducted to accomplish the following:

- Review the ERP with employees and discuss any changes made.
- Provide DWWR employees with information on Emergency Preparedness.
- Give DWWR employees an opportunity to assess preparedness at work and home.
- Determine whether policies and procedures exist to handle specific situations which may arise during an emergency.

These objectives will be met through the use of videos, informational handouts, table top exercises, plant evacuation drills, and discussions.

DWWR will also offer classes to employees on CPR Basic First Aid, Fire Extinguisher, and Fire Prevention.

Every October, the City participates in a county-wide exercise. DWWR will be involved in this exercise as well as any drills scheduled for the City only.



**CITY OF DALY CITY  
SAFETY MEETING RECORD**

Director's Initials \_\_\_\_\_

Training       Dept. Safety Committee (show minutes on reverse)       Other \_\_\_\_\_

This attendance record shall be signed by each employee attending this safety session, and shall be completed, reviewed and forwarded as indicated on the form.

Subject: HMBP Evacuation plan training / Plan Review

Work Group: OPERATIONS Department: Water and Wastewater Resources

Date: 2/2/2021 Location: Breakroom

Conducted by: **BRANDON WARDLE FOR THE FOLLOWING STATIONS:**

Name (Printed)	Signature	Date	Time
Brandon Wardle		2/3/21	0500
Chris Broadway		2/2/21	1343
Darin Schumacker		2/3/21	1700
Diego Martinez			
Jonathan Salvador		2/2/21	1352
Ernesto Alvarez		2/3/21	2020
Greg Krauss			
John Grunley		2/3/21	0530
Kevin Coen			
Lawrence Eubanks		02/02/21	1650
Michael Popiel		02/03/21	0415
Miguel Espinoza		2/2/21	1400
Janie Vien		02/02/21	1532
Norman Mallari		2/2/21	1330
Noah Lundy		2/2/21	1548
Tharanga Abeyssekera		2/2/21	1455
Tina Raikar		02/02/2021	1547
Henry Au		2/2/2021	1750
Tony Pereur		2/2/21	1515
ANIT DAO		2/2/21	1655

cc: Risk Manager  
cc: Department File  
Human Resources

Reviewed by 2/2/2021  
Supervisor Date







# CITY OF DALY CITY

STCO's Initials

## SAFETY MEETING RECORD

Training     Dept. Safety Committee (show minutes on reverse)     Other \_\_\_\_\_

This attendance record shall be signed by each employee attending this safety session, and shall be completed, reviewed and forwarded as indicated on the form.

Subject: HMBP Site Map Review


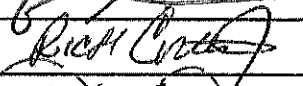
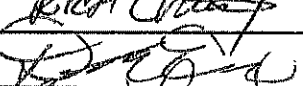
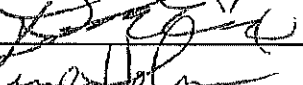
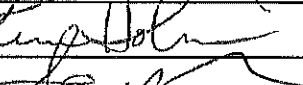
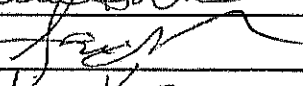
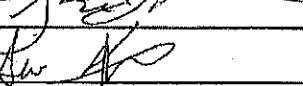

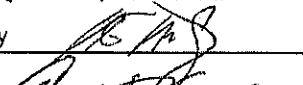
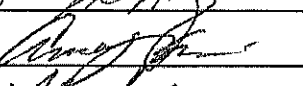
Work Group: C & D SYSTEM MAINT.    Department: Water and Wastewater Resources

Date: 2-3-21    Location: C & D    From: \_\_\_\_\_ A.M./P.M. To: \_\_\_\_\_ A.M./P.M.

Conducted by: ALS/STK

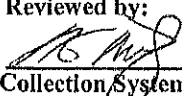
My signature acknowledges that I have received training in the above subject area. I agree to work safely and abide by all safety rules and procedures.

### Signature of Employees in Attendance

Distribution			Collection		
Name (Printed)	Signature	Make-up Date	Name (Printed)	Signature	Make-up Date
Ken Alasandro			Ernesto Barroso		
Andre Allen			Richard Cortese		
Laine Fowler			Derek Emanuel		
Ruben Gonzalez			Ken Holmes		
Chad Halverson			Sam Iosia		
Nicholas Hefner			Sione Kofeloa		
Keegan Kime			Kevin McCarthy		
William Linney			Anthony Smith		
Kyran Milton			Matangi Tonga		
Luis Navarrete			Nick Pierotti		
Bobby Raygoza					
Mauro Rodriguez					
Tony Valdez					
			Jeff Oblanca		

cc: Risk Manager/City Attorney

cc: Department File  
Human Resources

Reviewed by:     Date: 2-3-21  
Collection System Manager

\_\_\_\_\_  
Distribution System Manager    Date

City of Daly City  
Department of Water & Wastewater Resources  
In Person & Online Safety Trainings

<b>Course Name</b>	<b>Date</b>	<b>Occurrence</b>
NIMS ICS 100 (Disaster Service Worker Training)	10/15/2020	Initial
NIMS IS 700 (Disaster Service Worker Training)	10/29/2020	Initial
NIMS IS 800 (Supervisor Only)	11/5/2020	Initial
Hazmat Spill Prevention and Control	06/23/22	Annual
Disaster Preparedness	09/29/22	Biannual
NCFA - Onsite Fire Extinguisher Training	10/13/22	Annual
First Aid/CPR/AED	11/10/22	Biannual